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Release Abatement Measure (RAM) Plan Status Report & Remedial Monitoring Report #1

508 Somerville Avenue
Somerville, MA
RTN 3-32186

November 24, 2015

Prepared For:
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&

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IES Project #2013-10-0836

IES Inc.
ENVIRONMENTAL CONSULTANTS
Established 1986

REF
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IES

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Release Abatement Measure (RAM)
Status Report #1 Transmittal
Commercial Property
508 Somerville Avenue
Somerville, MA 02143
RTN 3-32186

1.0 Introduction:

On behalf of 508 Somerville Avenue, LLC IES, Inc. has prepared this Release Abatement Measure (RAM) Status Report #1 pursuant to 310 CMR 40.0445 for the Disposal Site associated with RTN 3-332186 located at 508 Somerville Avenue, Somerville, MA.

As detailed in the previously submitted "Amended Release Abatement Measure (RAM) Plan" dated July 22, 2014 prepared by IES, Inc., the objective of the RAM is to reduce the VPH, EPH and Metal contamination, present in the soil and/or groundwater at the site to achieve a condition of "No Significant Risk" consistent with the proposed future residential use of the Disposal Site. The cleanup goal is the applicable Method 1 S-1/GW-2 and GW-3 soil standards, and Method 1 GW-2 and/or GW-3 groundwater standards; or background, if feasible.

Please see **Figures 3 and 4** in **Attachment "A"** for the Disposal Site MAP and RAM Site Plan.

2.0 Release Abatement Measure Status and Remedial Monitoring Report:

Pursuant to 310 CMR 40.0445(2) a Release Abatement Measure Status and Remedial Monitoring Report shall contain the following:

(a) The status of the response operations;

RAM Activities Conducted to Date:

Since the submittal of the aforementioned "Amended Release Abatement Measure (RAM) Plan", response actions conducted to date included the inoculation of 30 injection points from September 2 through September 11, 2015 with RegenOx® In Situ Chemical Oxidation (RegenOx) at 504 and 508 Somerville Avenue. The injections were conducted by Soil Exploration of Leominster, MA under the supervision of IES.

Each point was inoculated with approximately 60 lbs. of RegenOx Part A (oxidant); approximately 42 lbs. of RegenOx Part B (Activator); approximately 39 lbs. of Oxygen Release Compound Advanced® (ORC Advanced) and approximately 127 gallons of water.

The target area consisted of a vertical thickness of approximately 10 to 20 feet below grade surface grade (bgs). The injection points were essentially advanced 10-15 feet on center within the gasoline plume at 504 and 508 Somerville Avenue. Please see Figure 4 in Attachment "A" for the injection locations. Please see **Attachment "D"** in the aforementioned Amended RAM Plan for Rengenesis's recommendations, including injection point locations and their proposed Scope of Work.

Before the initiation of the remedial injection program groundwater samples were obtained from non-injection wells at the point of the application of the remedial additives; and upgradient and downgradient of the release area. The groundwater samples were tested for the presence of the Contaminants of Concern (COC), and remedial additives. Regenesis recommended the following remedial additive monitoring parameters: Dissolved Oxygen (DO), Oxygen Reduction Potential (ORP), pH, conductivity, temperature, dissolved Iron (Fe), dissolved Manganese (Mn), Calcium (Ca), and/or a hydrogen peroxide field test. The COC monitoring parameters will include VPH with target VOC's and/or EPH w/PAHs. Please see Table 9 in **Attachment "B"** for a summary of the COC and Remedial Additive Monitoring results and **Attachment "D"** for a copy of the laboratory report and chain of custody.

Particulate Matter Monitoring (i.e. dust monitoring) and dust suppression activities were conducted during the remedial injection event. On September 2, 2015 the RAM injections were conducted on the asphalt paved portion of the Disposal Site located at 504 Somerville Avenue. Therefore, there was no exposed soil and due to the nature of the work performed in this area of the site, dust generation was insignificant and as such, no dust monitoring was conducting on September 2, 2015. However, please note IES did have the DustTrak II Model #8530 on-site in case it was deemed necessary. In addition, the PRP assigned an employee to the project to provide dust suppression activities, which included the constant application of water (misting) to the paved and unpaved portions of the site, including even those areas where no work was being conducted.

The DustTrak II 8350 was utilized from September 3 through 11, 2015 and the handheld DustTrak DRX 5834 has been utilized since. Both DustTrak instruments were/are equipped with a 2.5 micron filters and were/are programed to alarm with an action level of 600 ug/m^3 or 0.6 mg/m^3 for total particulate concentration.

The prevailing wind direction was noted each day and was monitored throughout the day and the dust monitor was subsequently placed near the fence line on the leeward side of the site. Readings were taken approximately every 20 to 30 minutes for one to two minute intervals.

Please note all the dust monitoring results are being forwarded to MassDEP in timely reports on or about a weekly timeframe, depending on the schedule of the RAM activities. As detailed in the aforementioned monitoring reports supplied to MassDEP, which are included in **Attachment "C"** of this report, no readings exceeded the site specific action level.

In addition, the VOC Vapor Barrier was installed on November 17, 2015 in accordance with the aforementioned RAM Plan. Mr. Timothy Boyle of MassDEP was on-site to witness the installation. Please see **Attachment "A"** for pictures of the Vapor Barrier.

Construction Related RAM Activities:

IES was on-site on September 21, 2014 to observe the demolition of the concrete slab/foundation of the former site building located at 508 Somerville Avenue. Soil that was excavated to allow for the removal of the concrete foundation was subsequently returned to its place of origin. No petroleum impacted soil was encountered during the removal of the concrete slab and/or foundation. The concrete was disposed of as solid waste pursuant 310 CMR 19.000 at the Miles River facility in Ipswich, MA.

Particulate matter monitoring (i.e. dust monitoring) and dust suppression activities were conducted during this process. Constant misting with water was applied to the paved and unpaved portions of the site, including areas where no work was being conducted.

The handheld DustTrak DRX 5834 equipped with a 2.5 micron filter and programmed to alarm with an action level of 600 ug/m^3 or 0.6 mg/m^3 for total particulate concentration was utilized to monitoring dust concentrations.

The prevailing wind direction was noted at the start of each work day and monitored throughout the day, with the dust monitor was subsequently placed near the fence line on the leeward side of the site. Readings were taken approximately every 20 to 30 minutes for one to two minute intervals. No readings exceeded the site specific action level of 0.6 mg/m^3.

On September 24, 2015 IES was on-site with Global Contracting of Taunton, MA to remove an abandoned in-ground hydraulic lift. The in ground lifts consisted of two 8' hydraulic pistons and one approximate 60-gallon steel reservoir and was formerly located in the rear of the garage portion of the recently razed former garage building at the Site. The remaining hydraulic oil in the pistons and reservoirs were drained into a DOT approved 55-gallon drum. The pistons and reservoir appeared to be in good condition and no obviously leaks were observed. In addition, no suspect oil staining or petroleum odors were noted during the removal of the abandoned hydraulic lift system. Post-removal confirmatory soil samples were obtained from the sidewall and bottom of the hydraulic lift excavation. The confirmatory soil samples were screened for headspace VOC's. The confirmatory soil sample (LS-1) with highest headspace reading of 1.1 ppm was subsequently forwarded to the Phoenix Laboratory for the laboratory analysis of Volatile Petroleum Hydrocarbons (VPH) with target analytes and Extractable Petroleum Hydrocarbons (EPH) with target Polynuclear Aromatic Hydrocarbons (PAHs).

The results of the confirmatory soil testing program revealed slightly elevated EPH and VPH fractions, which were below their applicable Method 1 S-1 and RCS-1 Standards. Please see Attachment "B" for the laboratory test result summary tables.

On September 25, 2015, IES was on-site with Clean Harbors of Braintree, MA to clean the on-site oil water separator (OWS) and to reclaim the hydraulic oil generated during the removal of the hydraulic lift. The hydraulic oil and OWS oily water were transported by Clean Harbors to their Braintree facility for disposal under a hazardous waste manifest. Upon steam cleaning, the OWS appeared to be structurally sound and no obvious cracks were noted.

IES was on-site October 2, 2015 at 508 Somerville Avenue to provide dust monitoring activities, while the excavating contractor, MVP Contracting of Dracut, MA, installed erosion controls and removed any remaining asphalt pavement at 508 Somerville Avenue.

IES was on-site October 28 through 30, 2015 to observe the perimeter footing/foundation excavation of the proposed site building at 508 Somerville Avenue. The perimeter footing/foundation excavation consisting of an approximate 4 foot wide by 6.5 foot deep, 50' by 60' trench. The excavated soil generated from the initial perimeter footing/foundation excavation was stockpiled on the rear portion of 508 Somerville Avenue and/or within center of the foundation excavation. The excavated soil was stockpiled on and covered with 6 mil polyethylene plastic. Periodic soil samples were obtained from the footing/foundation excavation and were screened for headspace VOC. No elevated headspace VOCs were detected above background (0.0 ppmv). However, approximately 5 cubic yards of suspect oily soil was segregated from the urban fill stockpile and placed on and covered with 6 mil polyethylene plastic for further characterization.

Upon completion of the concrete footings/foundation walls, on November 9 and 10, 2015 the foundation was backfilled with the urban fill generated from the footing/foundation excavation.

(b) Any significant new site information or data;

There is no additional significant new site information concerning the Disposal Site that is not already mentioned in this status report.

(c). Details of, and/or plans for the management of Remediation Waste, Remedial Wastewater, and/or Remedial Additives;

From September 2 through September 11, 2015, 30 injection points were inoculated with RegenOx® In Situ Chemical Oxidation (RegenOx) at 504 and 508 Somerville Avenue. The injections were conducted by Soil Exploration of Leominster, MA under the supervision of IES.

Each point was inoculated with approximately 60 lbs. of RegenOx Part A (oxidant); approximately 42 lbs. of RegenOx Part B (Activator); approximately 39 lbs. of Oxygen Release Compound Advanced® (ORC Advanced) and approximately 127 gallons of water. Any excess remedial additive not used was returned to the vender, and no remedial additives are being currently stored at the site.

Approximately 600 cubic yards (900 tons) of Urban Fill material and less than 5 cubic yards of suspect oily soil was generated during the foundation excavation and stockpiled on and covered with 6 mil polyethylene. Pending the laboratory analysis for soil disposal characteristic test results, these soil stockpiles will be transported under a Bill of Lading (BOL), Hazardous Waste Manifest, Material and/or a Shipping Record & Log (MSRL), whichever is applicable, to a licensed receiving facility either for recycling at an asphalt batching plant and/or at a predetermined licensed Landfill for daily cover and/or disposal, if accepted.

Although the following is not considered a remedial waste and not part of the "Disposal Site" associated with RTN 3-32186, on September 25, 2015, IES was on-site with Clean Harbors of Braintree, MA to clean the on-site oil water separator (OWS) and to reclaim the hydraulic oil generated during the removal of the hydraulic lift. The hydraulic oil and OWS oily water were transported by Clean Harbor to their Braintree facility for disposal under a hazardous waste manifest. Once IES receives a copy of the manifest it will be included in the next DEP submittal.

No additional Remediation Waste, Remedial Wastewater, and/or Remedial Additives; were generated and/or used since the submittal of the previous status report.

(d). Any other information that the Department, during this review and evaluation of a Status Report, determines to be necessary to complete said Status Report, in view of site specific circumstances and condition;

Mr. Pacheco of 502 Somerville Avenue informed IES that a small quantity of remedial additive (less than a five-gallon pail) entered the dirt floor basement of 502 Somerville Avenue on September 3, 2015. As a result, the injection was immediately halted and relocated more than 10 feet from 502 Somerville Avenue. The excess remedial additive was removed from Mr. Pacheco's basement and was disposed to the ground surface at 508 Somerville Avenue. At that time, Christopher D. Buchanan informed the LSP of record, Daniel Jaffe and also informed Mr. William Mitchell, LSP of Clean Soils Ltd., who represents JWF, LLC, the owner of 504 Somerville Avenue and 7-9 Properzi Way. Mr. Mitchell was informed due the three-family residential dwelling located at 7-9 Properzi Way. Mr. Mitchell informed IES that there was no evidence of any remedial additive intrusions into the basement of 7-9 Properzi Way.

IES was subsequently notified of a second remedial additive intrusion event on September 4, 2015, for which the representatives of the PRP, Mr. Vincent and Douglas Beaudet cleaned up on their own (less than half a 5-gallon pail). IES was notified of this incident by the DEP due to a citizen complaint. IES subsequently contacted the Beaudets who confirmed the second intrusion event and informed IES that they were going to notify us on Monday when we returned to the site. As detailed above, please note RegenOx mixture is non-toxic and poses no short term exposure threat. Mr. Pacheco has been informed of the situation. No additional intrusions have been noted since the two above noted events.

(e). An LSP Opinion as to whether the Release Abatement Measure is being conducted in conformance with the Release Abatement Measure Plan, and any conditions of approval established by the Department;

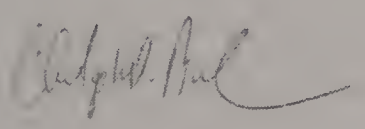
It is the opinion of Daniel G. Jaffe (LSP #2347) that the ongoing RAM at the site is being conducted in conformance with the Release Abatement Measure Plan, and any conditions established by the Department.

Finally, the Release Abatement Transmittal Form (BWSC-106) used for this status report was submitted via eDEP.

Should you have any questions regarding this matter, please do not hesitate to contact our office.

IES is pleased to have been of service to you, and should you have any questions about this report, please do not hesitate to contact our office.

Respectfully submitted,
IES, Inc.



Christopher D. Buchanan
Project Manager

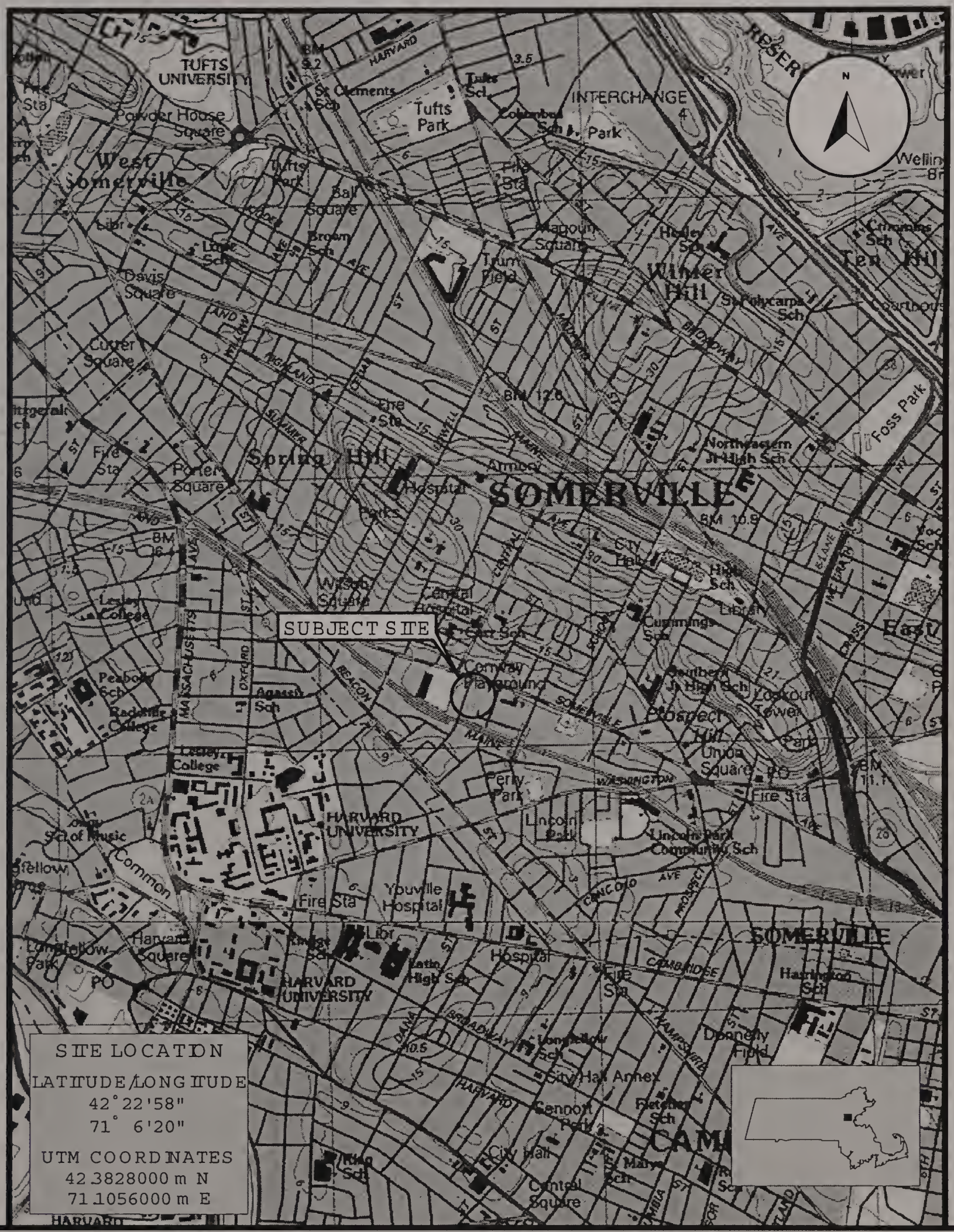
Reviewed By:

Daniel Jaffe
President, LSP #2347

IES Inc.
ENVIRONMENTAL CONSULTANTS

ATTACHMENT "A"

Figures and Pictures



USGS BOSTON NORTH, MA
QUADRANGLE

508 SOMERVILLE AVENUE
SOMERVILLE, MA

FIGURE 1

ES, INC.
ENVIRONMENTAL CONSULTANTS

City of
Somerville
Massachusetts

Assessors Map

- Parcel Boundary
- Block/ROW Boundary
- Other ROW Boundary
- Assessor Map Boundary
- Water Body
- Building
- Railroad ROW

Lot Dimension
Lot Number
Square Footage
Frontage Dimension
Street Address

80 40 0 80 Feet

1" = 80'

July 1, 2012

Sources: Rights-of-way and building footprints were originally developed from Boston Edison Company data, 1995 and have been updated by City of Somerville. Parcel data were originally developed from assessor maps by CDM Smith, 1999 and have been updated by CDM Smith based on City of Somerville records.

NOTE: The data represented on these maps indicate distances and deeded locations of cadastral boundaries in the City of Somerville. They are NOT survey data and should not be treated as such.

CDM Smith

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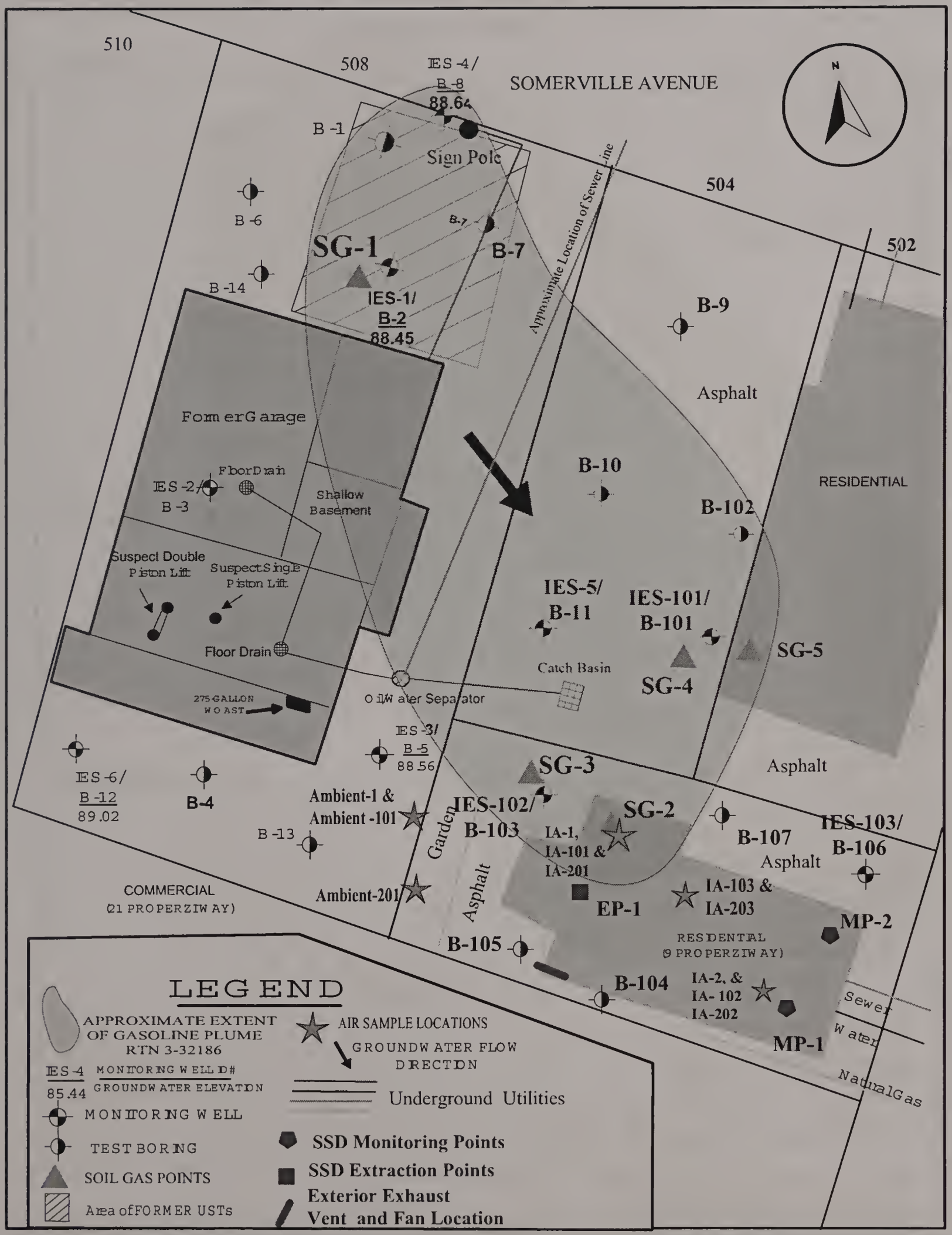


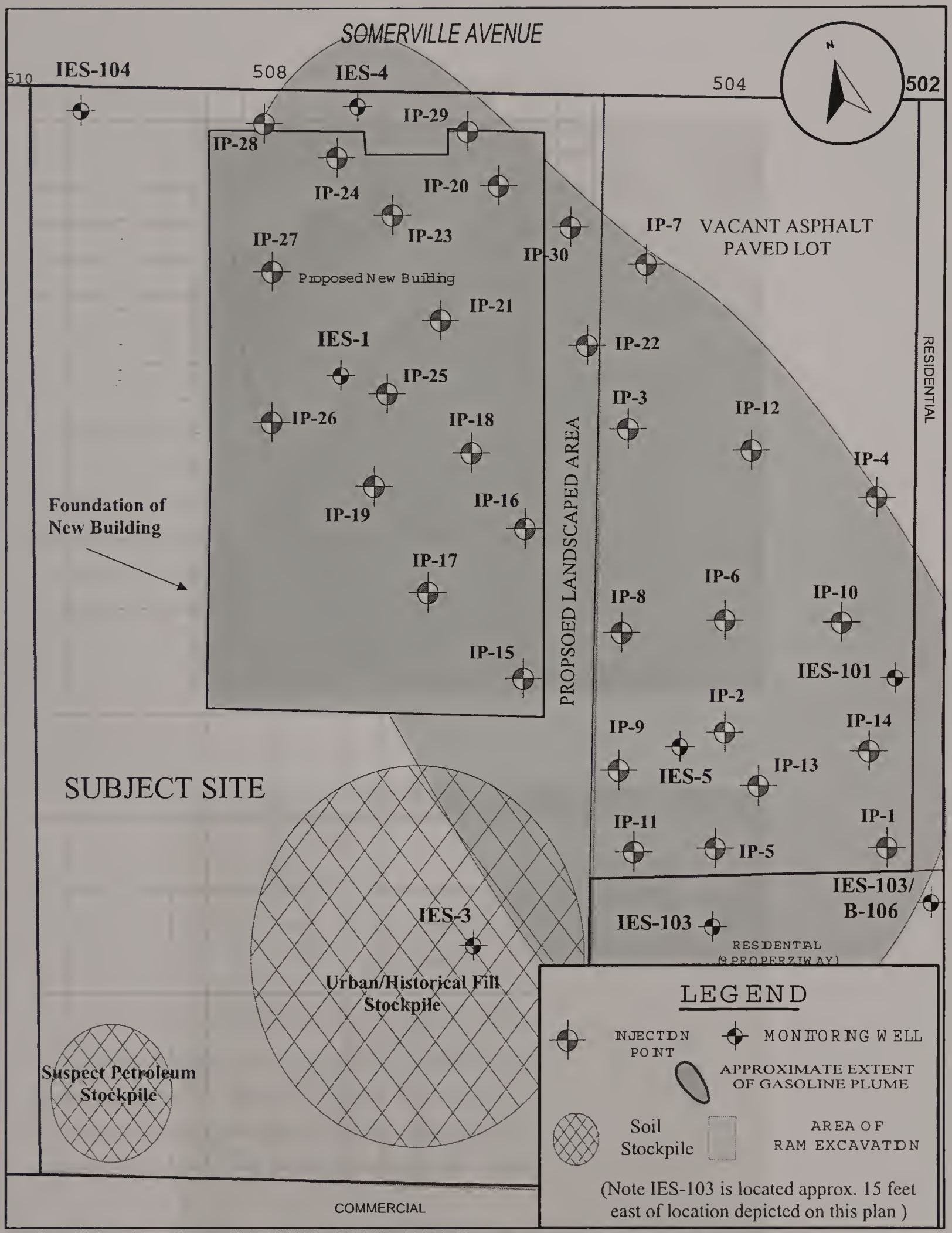
DISPOSAL SITE MAP
508 SOMERVILLE AVENUE
SOMERVILLE, MA
RTN 3-32186
November 16, 2015

APPROXIMATE SCALE

9 0 18 FT

FIGURE 3

ES, INC.



508 SOMERVILLE AVENUE
SOMERVILLE, MA
ES PROJECT NO. 2013-10-0836
November 16, 2015

APPROXIMATE SCALE

50 0 100 FT

FIGURE 4

ES, INC.

Pictures of Vapor Barrier

ATTACHMENT "B"

Summary Tables

IES, Inc. Project # 2013-10-0836
RTN 3-32186
November 24 2015

IES inc
ENVIRONMENTAL CONSULTANTS

Table 1
Soil Sample Screening Results

Boring No.	Sample No.	Depth (feet)	VOC's (ppm)
B-1	S-1	0.5-2.5	1.1
	S-2	2.5-5	0
	S-3	5-7.5	0
	S-4	7.5-10	0
	S-5	10-12.5	29.1
	S-6	**12.5-15**	**492.9**
B-2 (IES-1)	S-1	0.5-2.5	0.8
	S-2	2.5-5	179.1
	S-3	5.0-8.0	5.4
	S-4	8.0-10.0	0.8
	S-5	10-12.5	259.7
	S-6	**12.5-15**	**843.7**
B-3 IES-2	**S-1**	**0.5-2.5**	**9.8**
	S-2	2.5-5	3.6
	S-3	5.0-8.0	2.2
	S-4	8.0-10.0	0
	S-5	10-12.5	0
	S-6	12.5-15	0
B-4	**S-1**	**0-5**	**36**
	S-2	5.0-8.0	4.3
	S-3	5.0-8.0	0.5
	S-4	8.0-10.0	0
	S-5	12.5-15	2.4
B-5 (IES-3)	**S-1**	**0-5**	**3.2**
	S-2	5.0-8.0	0
	S-3	8.00-10.0	0
	S-4	10-12.5	2.1
	S-5	12.5-15	0
B-6	S-1	0-5	0
	S-2	5.0-8.0	2.2
	S-3	8.0-10.0	0
	S-4	10-12.5	0
	S-5	12.5-15	0
B-7	S-1	0-5	0
	S-2	5-7.5	0
	S-3	7.5-10	0
	S-4	10-12.5	405.9
	S-5	**12.5-15**	**991.6**

Boring No.	Sample No.	Depth (feet)	VOC's (ppm)
B-8 (IES-4)	S-1	0-5	0
	S-2	5.0-10.0	0
	S-3	10.0-12.0	9.54
	S-3A	**12.0-15.0**	**666.2**
B-9	S-1	0-5	0
	S-2	5.0-10.0	0
	S-3	10.0-15.0	0.477
B-10	S-1	0-5	0.689
	S-2	5.0-10.0	0
	S-3	10.0-12.0	13.25
	S-3A	**12.0-15.0**	**201.4**
B-11 (IES-5)	S-1	0-5	0
	S-2	5.0-8.0	0
	S-2A	8.0-10.0	0
	S-3	**1.0-15.0**	**625.4**
B-12 (IES-6)	**S-1**	**0-5**	**0**
	S-2	5.0-10.0	3.71
	S-3	10.0-13.0	0
	S-3A	13.0-15.0	0
B-13	**S-1**	**0.0-5.0**	**0**
	S-2	5.0-10.0	0
	S-3	10.0-12.0	0
	S-3A	12.0-15.0	0
B-14	**S-1**	**0-5**	**0**
	S-2	5.0-10.0	0
	S-3	10.0-15.0	0

Boring No.	Sample No.	Depth (feet)	VOC's (ppm)
B-101	S-1	0-4	0.8
	S-2	4.0-8.0	1.6
	S-3	8.0-11.5	0.9
	S-3A	11.5-12.0	24.4
	S-4	**12.0-16.0**	**1,015.50**
	S-5	**16.0-20.0**	**19.6**
B-102 (IES-101)	S-1	0-4	2.9
	S-2	4.0-8.0	4.1
	S-3	**8.0-12.0**	**53.5**
	S-4	12.0-16.0	44.5
B-103 (IES-102)	S-1	0-4	2.2
	S-2	4.0-8.0	1.7
	S-3	8.0-12.0	25.9
	S-4	12-13.5	1,089.10
	S-4A	13.5-16	63.6
B-104	S-1	0.0-2.0	0
	S-2	2.0-4.0	0
	S-3	4.0-6.0	1.7
	S-4	6.0-8.0	2.7
	S-5	8.0-10.0	2.5
	S-6	10.0-12.0	4.1
B-105	S-1	0-4	3.3
	S-2	4.0-8.0	2.2
	S-3	8.0-12.0	2.4
	S-4	12.0-16.0	3.2
B-106	S-1	0-4	1.8
	S-2	4.0-8.0	1.4
	S-3	8.0-12.0	1.3
	S-4	12.0-16.0	1.3
B-107	S-1	0-4	0.4
	S-2	4.0-8.0	0.9
	S-3	8.0-12.0	1
	S-4	12.0-16.0	0.9

Notes: 1. MiniRae Lite Photoionization Detector (PID)
2. Results adjusted for Benzene
3. Background at 0.0 ppm
Bold = Samples submitted for laboratory analysis

Table 2
Summary of Soil Testing Results

Sample ID	B-1/ S-6	B-2/ S-6	B-3/ S-1	B-4/ S-1	B-7/ S-5	B-8/ S-3A	B-10/ S-3A	B-11/ S-3	B-101/ S-4	B-101/ S-5	B-102/ S-3	B-103/ S-4	Method 1	
Depth (feet):	12.5-15.0	12.5-15.0	0.5-2.5	0-5.0	12.5-15.0	12.0-015.0	12.0-15.0	12.0-15.0	12.0-16.0	16.0-20.0	8.0-12.0	12.0-13.5	S-1/	S-1/
Date:	January 2014					February 2014			May 2014					
VOC's (ppmv)	492.9	843.7	9.8	36	991.6	666.21	201.4	625.4	1,015.50	19.6	53.5	1,089.10	GW-2	GW-3
EPH (mg/kg)														
C9-C18 Aliphatics	NT	NT	30	260	1,800	1,500	<13	1,300	450	<12	<12	510	1,000	1,000
C19-C36 Aliphatics	NT	NT	89	1,800	ND	<12	<13	<120	<12	<12	<12	<12	3,000	3,000
C11-C22 Aromatics	NT	NT	310	360	160	190	<13	220	41	<12	<12	43	1,000	1,000
PAHs (mg/kg)														
Acenaphthene	NT	NT	1.5	ND	0.19	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	1,000	1,000
Acenaphthylene	NT	NT	0.17	ND	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	600	10
Anthracene	NT	NT	4	0.2	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	1,000	1,000
Benzo(a)anthracene	NT	NT	9.5	0.92	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	7	7
Benzo(a)pyrene	NT	NT	8.6	1.3	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	2	2
Benzo(b)fluoranthene	NT	NT	12	1.9	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	70	70
Benzo(g,h,i)perylene	NT	NT	4.6	0.9	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	1,000	1,000
Benzo(k)fluoranthene	NT	NT	4	0.64	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	70	70
Chrysene	NT	NT	10	1.1	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	70	70
Dibenz(a,h)anthracene	NT	NT	1.4	0.23	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	0.7	0.7
Fluoranthene	NT	NT	24	1.8	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	1,000	1,000
Fluorene	NT	NT	1.6	ND	0.17	0.15	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	1,000	1,000
Indeno(1,2,3-cd)pyrene	NT	NT	5.5	0.92	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	7	7
2-Methylnaphthalene	NT	NT	0.41	0.26	32	34	<0.13	25	5	<0.12	<0.12	0.73	80	300
Naphthalene	NT	NT	0.52	1.3	41	42	<0.13	37	6.3	<0.12	<0.12	1.2	20	500
Phenanthrene	NT	NT	18	0.95	0.16	0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	500	500
Pyrene	NT	NT	25	2.2	ND	<0.12	<0.13	<1.2	<0.12	<0.12	<0.12	<0.12	1,000	1,000
VPH (mg/kg)														
C5-C8 Aliphatics	**210**	ND	NT	NT	**6,800**	**6,600**	<16	**5,900**	**870**	<12	**830**	<15	100	100
C9-C12 Aliphatics	100	ND	NT	NT	**1,100**	**1,100**	<16	540	310	<12	390	<15	1,000	1,000
C9-C10 Aromatics	**220**	ND	NT	NT	**2,600**	**2,500**	<16	**2,000**	**560**	<12	**550**	<15	100	100
VOC's (mg/kg)														
Ethylbenzene	2	ND	NT	ND	160	110	0.55	22	12	<0.61	3.1	<0.074	500	500
MTBE	ND	ND	NT	ND	7.4	3.9	<0.080	5	<1.4	<0.61	<1.3	<0.074	100	100
Naphthalene	2.2	ND	NT	ND	**62**	**66**	<0.40	**59**	<6.8	<0.30	<6.4	<0.37	20	500
Toluene	ND	ND	NT	ND	69	13	0.66	5.8	<1.4	<0.061	<1.3	<0.074	500	500
Total Xylene	9.8	ND	NT	ND	**970**	**650**	3.2	**333**	59	<0.12	5.3	<0.15	100	500

Notes: NT = Not Tested.
ppmv = part per million per volume.
Bold = Exceed Method-1 Standards

Table 3
Summary of Metals Soil Testing Results

Sample ID	B-4/S-1	B-4/S-2	B-5/S-1	B-12/S-1	B-13/S-1	B-14/S-1	Method 1	
Depth (feet):	**0-5**	**5-8'**	**0-5**	**0-5**	**0-5**	**0-5**	**S-1/ GW-2**	**S-1/ GW-3**
VOC's (ppmv)	36	4.3	3.2	0	0	0		
Metals (mg/kg)								
Arsenic	<2.8	NT	NT	NT	NT	6.2	20	20
Barium	40	NT	NT	NT	NT	87	1,000	1,000
Cadmium	9.9	0.78	5	4.3	7.3	8.9	70	70
Total Chromium	10	NT	N T	NT	NT	15	100	100
Lead	180	38	510	260	440	370	200	200
Mercury	0.49	NT	NT	NT	NT	0.23	20	20
Nickel	15	NT	NT	NT	NT	NT	600	600
Vanadium	17	NT	NT	NT	NT	NT	400	400
Zinc	4,800	220	1,500	1,500	2,900	NT	1,000	1,000

Notes: NT = Not Tested.
ppmv = part per million per volume.
Bold = Exceed Method-1 Standards

Table 4
Summary of Groundwater Testing Results

Sample ID:	IES-1		IES-2	IES-3	IES-4		IES-5	IES-6	IES-101	IES-102	IES-103	Method 1	
Date:	Jan-14	Feb-14	Jan-14	Jan-14	Feb-14	Jun-14	Feb-14	Feb-14	Jun-14	Jun-14	Jun-14		
GW Depth (feet)	11.28	11.29	11.52	8.34	11.42	11.68	9.49	7.74	10.32	8.27	8.09	GW-2	GW-3
Well Depth (feet)	17.52	17.45	14.41	14.43	18.2	15.34	14.35	14.16	14.72	14.31	14.27		
EPH (µg/l):													
C9-C18 Aliphatics	130	<100	<100	<100	290	NT	130	<100	350	140	<100	5,000	50,000
C19-C36 Aliphatics	<100	<100	<100	<100	<100	NT	<100	<100	<100	<100	<100	NA	50,000
C11-C22 Aromatics	110	100	<100	120	140	NT	<100	<100	200	140	<100	50,000	5,000
PAH's (ug/l):													
2-Methylnaphthalene	3.1	<2.0	<2.0	<2.0	29	NT	8.1	<2.0	29	5.8	<2.0	2,000	20,000
Naphthalene	20	11	<2.0	<2.0	67	NT	15	<2.0	100	11	<2.0	700	20,000
VPH (ug/l):													
C5-C8 Aliphatics	140	210	<100	NT	**3,800**	1,100	2,100	<100	**5,000**	880	<100	3,000	50,000
C9-C12 Aliphatics	<100	<100	<100	NT	<1,000	<500	<100	<100	<500	<200	<100	5,000	50,000
C9-C10 Aromatics	330	290	<100	NT	3,000	1,900	710	<100	2,400	640	<100	4,000	50,000
VOC's (µg/l):													
Benzene	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<1.0	<1.0	5.4	<2.0	<1.0	1,000	100,000
Ethylbenzene	32	52	<1.0	<1.0	300	95	3.7	<1.0	300	7.9	<1.0	20,000	5,000
Methyl tert-Butyl Ether (MTBE)	<1.0	<1.0	<1.0	<1.0	<10	<5.0	6.1	<1.0	<5.0	<2.0	<1.0	50,000	50,000
Naphthalene	19	26	<5.0	<2.0	140	57	29	<.0	140	10	<5.0	700	20,000
Toluene	1.4	2.4	<1.0	<1.0	140	41	<1.0	<1.0	110	<2.0	<1.0	50,000	40,000
Total Xylene	110	137	<3.0	<3.0	1,730	550	128	<2.0	1,730	36	<2.0	3,000	5,000
Dissolved Metals (ug/l):													
Cadmium	NT	NT	NT	NT	NT	NT	NT	<4	NT	NT	NT	NA	4
Lead	<10	NT	NT	NT	NT	NT	NT	<10	NT	NT	NT	NA	10
Zinc	NT	NT	NT	NT	NT	NT	NT	380	NT	NT	NT	NA	900

Notes: ND = Not Detected. (Below laboratory quantitation limits).
Not = Not Tested.
Bold = Above Method 1 Clean up standards.

Table 5

Summary of August 2014 VOC Groundwater Test Results

Monitoring Well ID #	IES-1	IES-2	IES-4	IES-101	IES-102	Method-1 GW-2/GW-3
Groundwater Depth (ft)	13.17	13.43	13.4	12.25	9.91	
Well Depth	17.48	14.42	18.79	15.16	15.56	
VOC's (µg/l):						
Benzene	<10	<1.0	<50	<50	<1.0	1,000/10,000
n-Butylbenzene	<10	<1.0	53	<50	<1.0	N/A
Ethylbenzene	60	<1.0	340	490	<1.0	20,000/5,000
Isopropylbenzene (Cumene)	32	<1.0	63	62	<1.0	N/A
Methyl tert-Butyl Ether (MTBE)	<10	<1.0	<50	<50	<1.0	50,000/50,000
Naphthalene	57	<5.0	<250	<250	<5.0	700/20,000
n-Propylbenzene	21	<1.0	140	79	<1.0	N/A
Tetrachloroethylene	<10	<0.4	<20	<20	<0.4	50/30,000
Trichloroethylene	<4.0	<0.4	<20*	<20*	<0.4	5/5,000
Toluene	<10	<1.0	150	570	<1.0	50,000/40,000
1,2,4-Trimethylbenzene	250	<1.0	1200	900	1.6	N/A
1,3,5-Trimethylbenzene	66	<1.0	400	290	<1.0	N/A
Total Xylene	230	<3.0	1,850	3,310	<3.0	3,000/5,000

Bold: Above its applicable Method 1 Standard.

GW-2 = MCP Method 1 GW-2 Standard

GW-3 = MCP Method 1 GW-3 Standard

*= Detection limit above its applicable Method 1 Standard.

Table 6
Summary of Sub-Slab Soil Gas Test Results

SAMPLE LOCATION SAMPLING	SG-1	SG-2	SG-5	R-SSSV1 ug/m3	C/I-SSGV2 ug/m3
Date	7/14/2012				
Petroleum Hydrocarbons in Air (ug/m3)					
1,3-Butadiene	2.3	2 U	10 U	NE	NE
Benzene 770 ug/m3	7.4	2 U	10 U	160	770
C5-C8 Aliphatics, Adjusted	330	190	60 U	4,100	23,000
C9-C10 Aromatics Total	76	58	50 U	700	3,100
C9-C12 Aliphatics, Adjusted	320	7800	110	4,800	15,000
Ethylbenzene	2.3	2 U	10 U	520	62,000
Methyl tert butyl ether	2 U	2 U	10 U	2,700	190,000
Naphthalene	89	13	35	42	190
o-Xylene	2.3	2 U	10 U	1,400	6,200
p/m-Xylene	5.4	4 U	20 U	1,400	6,200
Toluene	9.6	2 U	10 U	3,800	310,000

Notes: 1 = Residential Sub-Slab Soil Gas Screening Values, *MassDEP Interim Final Vapor Intrusion Guidance,Policy WSC#-11-435, Table II.1 (Revised March 7, 2013)* 2 = *Commercial/Industrial Sub-Slab Soil Gas Screening Values, MassDEP Policy WSC#-11-435, Table 1.2 (Revised March 7, 2013)*

NE = Not established.

U = Analyte undetected at laboratory method reporting limit

Bold = above applicable sub slab screening value

Table 7- Summary of Air Testing Results 7-9 Properzi Way, Somerville

Sample ID	Ambient	Ambient 101	Ambient 201	IA-1	IA-101	IA-201	IA-2	IA-102	IA-202	IA-103	IA-203	RTV
Location	Outside			Northwest Basement			Southwest Basement			1st Flr BR		
Date	Jul-14	Sep-14	Mar-15	Jul-14	Sep-14	Mar-15	Jul-14	Sep-14	Mar-15	Sep-14	Mar-15	
APH (µg/m3)												
C5-C8 Aliphatics	51	54	20	**160**	**130**	31	**85**	**98**	24	**320**	25	58
C9-C10 Aromatics	ND	<6.4	<6.4	8.1	**110**	<6.4	ND	**71**	<6.4	7.8	<6.4	10
C9-C12 Aliphatics	11	10	<9.0	**120**	31	<9.0	42	14	<9.0	**190**	<9.0	68
Benzene	0.45	0.23	0.56	1.2	1	0.55	0.66	0.81	0.54	0.23	0.72	2.3
Ethylbenzene	ND	<0.55	<0.55	1.2	<0.55	0.93	ND	<0.55	3.2	0.18	<0.55	7.4
Naphthalene	ND	<0.59	<0.59	**3.6**	**1.8**	<0.59	**2.8**	**1.1**	<0.59	**3.9**	<0.59	0.6
Toluene	1.6	2	0.62	2.6	3	0.64	2	2.8	0.65	12	0.61	54
Xylene	0.66	1	<1.1	1	2.7	<4.7	0.8	2.3	17.4	3.33	<1.1	20
VOCs/TO-15 (µg/m3)												
Acetone		17			44			38		**100**		91
Benzene		0.62			0.88			0.68		0.62		2.3
Carbon Tetrachloride		0.44			0.48			0.51		0.49		0.54
Chloroform		<0.17			0.74			0.67		1.1		1.9
Chloromethane		0.88			0.91			0.88		1.1		NE
Cyclohexane		<0.12			<0.12			0.18		2.8		NE
1,3-Dichlorobenzene		<0.2			<0.20			<0.20		0.35		0.6
1,4-Dichlorobenzene		<0.2			<0.20			<0.20		0.38		0.5
Dichlorodifluoro-methane (Freon 12)		1.5			1.8			1.6		1.4		NE
1,2-Dichloroethane		<0.14			0.51			0.28		**0.91**		0.09
Ethanol		34			44			51		440		NE
Ethyl Acetate		4.8			2.9			2.4		21		NE
Ethylbenzene		0.3			0.48			0.36		0.74		7.4
4-Ethyltoluene		<0.17			7.5			4.9		0.26		NE
Heptane		0.27			0.3			0.3		2.1		NE
2-Hexanone (MBK)	NT	0.3	NT	NT	<0.14	NT	NT	0.29	NT	0.4	NT	NE
Isopropanol		<3.3			66			35		130		NE
Methylene Chloride		1.3			2.4			1.3		1.2		NE
4-Methyl-2-pentanone (MIBK)		<0.14			0.63			0.6		0.47		NE
Naphthalene		<0.18			1.4			0.86		2.9		0.6
Styrene		<0.14			0.4			0.18		0.57		NE
Tetrachloroethylene		0.23			0.37			0.46		0.3		1.4
Toluene		1.9			2.8			2.6		11		54
Trichloroethylene		<0.18			<0.18			<0.18		<0.18		0.4
Trichlorofluoromethane (Freon 11)		1.1			1.2			1.2		1.2		NE
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon113)		0.5			0.47			0.7		0.54		NE
1,2,4-Trimethylbenzene		0.3			31			21		1.1		NE
1,3,5-Trimethylbenzene		<0.17			8.4			5.7		0.29		NE
-Xylene		1.33			2.7			2.3		2.3		20

Notes: NE = No Indoor Air Screening Value has been established; NT =Not Tested, RTV = 2013 Residential Threshold Values
Bold = Exceeds the Residential Threshold Value (February 2013)

Table 8

Groundwater Flow Survey

MW ID	GW Depth (Ft.)	Monitoring Well Depth (ft)	Well Head Elevation	GW Elevation
IES-1	11.29	17.45	99.74	88.45
IES-3	8.41	14.55	96.97	88.56
IES-4	11.42	18.2	100.06	88.64
IES-5	9.49	14.35	98.08	88.59
IES-6	7.74	14.16	96.76	89.02

Table 9
Summary of RAM COC and Remedial Additive Monitoring

Sample ID:	IES-4	IES-101	IES-103	IES-104	Method 1	
Location	Point of Application	Point of Application	Downgradient	Up gradient		
Date:	Sep-15	Sep-15	Sep-15	Sep-15		
GW Depth (feet)	13.72	12.57	10	13.83	GW-2	GW-3
Well Depth (feet)	18.9	15.18	14.49	19.7		
VPH (ug/l):						
C5-C8 Aliphatics	1,500	**3,400**	<100	<100	3,000	50,000
C9-C12 Aliphatics	2,300	1,300	<33	<33	5,000	50,000
C9-C10 Aromatics	3,000	1,900	<33	<33	4,000	50,000
VOC's (µg/l):						
Benzene	<1.0	16	<1	<1	1,000	100,000
Ethylbenzene	360	400	<1	<1	20,000	5,000
Methyl tert-Butyl Ether (MTBE)	<1.0	<1.0	<1	<1	50,000	50,000
Naphthalene	180	200	<5	<5	700	20,000
Toluene	140	170	<1	<1	50,000	40,000
Total Xylene	1,150	1,620	<3	<3	3,000	5,000
Remedial Additive Monitoring :						
Calcium (mg/l)	NT	68.9	43.1	76	NA	4
Iron (mg/l)	NT	5.57	0.034	3.31	NA	10
Manganese (mg/l)	NT	1.16	0.467	1.18	NA	900
Conductivity (umhos/cm)	NT	746	723	2,370	NA	NA
Dissolved Oxygen (ppm)	1.25 @ 21.5C	2.75 @ 21.6C	2.04 @21.1C	1.55 @23.1	NA	NA
Oxygen Reduction Potential (mv)	neg 146 @17.7	neg 73 @ 18.8C	24 @ 19.8C	neg 86@ 19.6C	NA	NA
pH	6.4 @ 17.8C	7.06 @ 18.8	6.74 @ 19.7 C	6.86 @ 19.7	NA	NA

Notes: ND = Not Detected. (Below laboratory quantitation limits).
Not = Not Tested.
Bold = Above Method 1 Clean up standards.

ATTACHMENT "C"

Dust Monitoring Reports

IES, Inc. Project # 2013-10-0836
RTN 3-32186
November 24, 2015

IES Inc.
ENVIRONMENTAL CONSULTANTS

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September 11, 2015

Mr. Timothy Boyle
Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

Re: 508 Somerville Avenue
Somerville, MA
RTN 3-32186

Dear Mr. Boyle:

As requested, the following includes the Particulate Matter (PM) Monitoring (i.e. dust monitoring) results that is being performed at the above referenced site during RAM activities detailed in an "Amended Release Abatement Measure (RAM) Plan" dated July 22, 2015 and previously submitted to MassDEP.

IES was on-site with Soil Exploration Corporation of Leominster, MA on September 2, 3, 4, 8 and 9 to supervise the RAM remedial additive injections. On September 2, 2015 the RAM injection/work was conducted on the asphalt paved portion of the Disposal Site located at 504 Somerville Avenue. Therefore, there was no exposed soil and due to the nature of the work performed in this area of the site, dust generation was insignificant and as such, no dust monitoring was conducting on September 2, 2015. However, please note IES did have the DustTrak II Model #8530 on-site in case it was deemed necessary. In addition, the PRP has assigned an employee to the project to provide dust suppression activities, which includes constant application of water (misting) to the paved and unpaved portions of the site, including even those areas where no work is being conducted.

Due to complaints by a concerned citizen, MassDEP requested weekly monitoring reports, and the data enclosed represents the findings for September 3, 4, 8, and 9. The DustTrak II is equipped with a 2.5 micron filter and is programed to alarm with an action level of 600 ug/m^3 or 0.6 mg/m^3 for total concentration. IES plans to use the DustTrak II 8530 until an equivalent Handheld DustTrak II becomes available.e

The prevailing wind direction was noted each day and was monitored throughout the day and the dust

monitor was subsequently placed near the fence line on the leeward side of the site. Readings were taken approximately every 20 to 30 minutes for one to two minute intervals. No readings exceeded the site specific action level. Please see attached for the PM Monitoring results.

Thank you.
Respectfully submitted,
IES, INC.

Christopher D. Buchanan
Project Manager

Reviewed by

Daniel Jaffe
President, LSP 2347

Dust Monitoring Results

IES Inc.
ENVIRONMENTAL CONSULTANTS

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak II 8530145205	002	09/03/2015	13:11:23	0:00:01:00	0.085	mg/m^3	AEROSOL	0.085	0.085

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak II 8530145205	003	09/03/2015	13:16:02	0:00:01:00	0.085	mg/m^3	AEROSOL	0.085	0.085
DustTrak II 8530145205	004	09/03/2015	13:19:07	0:00:01:00	0.102	mg/m^3	AEROSOL	0.102	0.102
DustTrak II 8530145205	005	09/03/2015	13:27:31	0:00:01:00	0.102	mg/m^3	AEROSOL	0.102	0.102
DustTrak II 8530145205	006	09/03/2015	13:32:32	0:00:02:00	0.087	mg/m^3	AEROSOL	0.090	0.084
DustTrak II 8530145205	007	09/03/2015	13:44:33	0:00:02:00	0.081	mg/m^3	AEROSOL	0.084	0.078
DustTrak II 8530145205	008	09/03/2015	14:03:44	0:00:02:00	0.084	mg/m^3	AEROSOL	0.091	0.080
DustTrak II 8530145205	009	09/03/2015	14:19:57	0:00:02:00	0.082	mg/m^3	AEROSOL	0.086	0.079
DustTrak II 8530145205	010	09/03/2015	14:36:41	0:00:02:00	0.078	mg/m^3	AEROSOL	0.084	0.075
DustTrak II 8530145205	011	09/03/2015	14:49:21	0:00:02:00	0.083	mg/m^3	AEROSOL	0.100	0.077
DustTrak II 8530145205	012	09/03/2015	15:00:30	0:00:02:00	0.087	mg/m^3	AEROSOL	0.091	0.083
DustTrak II 8530145205	013	09/03/2015	15:14:41	0:00:02:00	0.115	mg/m^3	AEROSOL	0.218	0.093
DustTrak II 8530145205	014	09/03/2015	15:30:09	0:00:02:00	0.080	mg/m^3	AEROSOL	0.100	0.074
DustTrak II 8530145205	015	09/03/2015	15:52:24	0:00:02:00	0.079	mg/m^3	AEROSOL	0.088	0.075
DustTrak II 8530145205	016	09/04/2015	07:27:52	0:00:02:00	0.050	mg/m^3	AEROSOL	0.228	0.008
DustTrak II 8530145205	017	09/04/2015	07:40:38	0:00:02:00	0.013	mg/m^3	AEROSOL	0.027	0.008
DustTrak II 8530145205	018	09/04/2015	07:54:13	0:00:02:00	0.011	mg/m^3	AEROSOL	0.023	0.007
DustTrak II 8530145205	019	09/04/2015	08:23:29	0:00:02:00	0.012	mg/m^3	AEROSOL	0.039	0.008
DustTrak II 8530145205	020	09/04/2015	09:07:20	0:00:02:00	0.008	mg/m^3	AEROSOL	0.014	0.007

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak II 8530145205	021	09/04/2015	09:33:28	0:00:02:00	0.015	mg/m^3	AEROSOL	0.056	0.006
DustTrak II 8530145205	022	09/04/2015	09:36:08	0:00:02:00	0.009	mg/m^3	AEROSOL	0.013	0.007
DustTrak II 8530145205	023	09/04/2015	10:31:55	0:00:02:00	0.007	mg/m^3	AEROSOL	0.011	0.005
DustTrak II 8530145205	024	09/04/2015	11:00:05	0:00:02:00	0.009	mg/m^3	AEROSOL	0.018	0.005
DustTrak II 8530145205	025	09/04/2015	11:28:20	0:00:02:00	0.008	mg/m^3	AEROSOL	0.010	0.006
DustTrak II 8530145205	026	09/04/2015	12:01:48	0:00:02:00	0.012	mg/m^3	AEROSOL	0.019	0.009
DustTrak II 8530145205	027	09/08/2015	08:20:25	0:00:02:00	0.053	mg/m^3	AEROSOL	0.057	0.051
DustTrak II 8530145205	028	09/08/2015	09:02:53	0:00:02:00	0.060	mg/m^3	AEROSOL	0.072	0.056
DustTrak II 8530145205	029	09/08/2015	09:45:57	0:00:02:00	0.065	mg/m^3	AEROSOL	0.095	0.060
DustTrak II 8530145205	030	09/08/2015	10:01:07	0:00:02:00	0.064	mg/m^3	AEROSOL	0.070	0.060
DustTrak II 8530145205	031	09/08/2015	10:32:19	0:00:02:00	0.063	mg/m^3	AEROSOL	0.065	0.062
DustTrak II 8530145205	032	09/08/2015	10:59:44	0:00:02:00	0.064	mg/m^3	AEROSOL	0.066	0.063
DustTrak II 8530145205	033	09/08/2015	11:33:28	0:00:02:00	0.070	mg/m^3	AEROSOL	0.078	0.064
DustTrak II 8530145205	034	09/08/2015	12:32:51	0:00:02:00	0.066	mg/m^3	AEROSOL	0.071	0.063
DustTrak II 8530145205	035	09/08/2015	12:59:20	0:00:02:00	0.065	mg/m^3	AEROSOL	0.066	0.064
DustTrak II 8530145205	036	09/08/2015	13:42:01	0:00:02:00	0.124	mg/m^3	AEROSOL	0.533	0.067
DustTrak II 8530145205	037	09/08/2015	13:59:25	0:00:02:00	0.069	mg/m^3	AEROSOL	0.081	0.065
DustTrak II 8530145205	038	09/08/2015	14:30:02	0:00:02:00	0.065	mg/m^3	AEROSOL	0.066	0.064

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak II 8530145205	040	09/09/2015	08:11:53	0:00:02:00	0.026	mg/m^3	AEROSOL	0.032	0.025
DustTrak II 8530145205	041	09/09/2015	08:34:30	0:00:02:00	0.026	mg/m^3	AEROSOL	0.028	0.024
DustTrak II 8530145205	042	09/09/2015	09:15:09	0:00:02:00	0.024	mg/m^3	AEROSOL	0.026	0.022
DustTrak II 8530145205	043	09/09/2015	09:30:35	0:00:02:00	0.022	mg/m^3	AEROSOL	0.025	0.020
DustTrak II 8530145205	044	09/09/2015	09:57:46	0:00:02:00	0.019	mg/m^3	AEROSOL	0.021	0.018
DustTrak II 8530145205	045	09/09/2015	10:38:02	0:00:02:00	0.018	mg/m^3	AEROSOL	0.021	0.017
DustTrak II 8530145205	046	09/09/2015	11:09:24	0:00:02:00	0.025	mg/m^3	AEROSOL	0.042	0.019
DustTrak II 8530145205	047	09/09/2015	11:35:14	0:00:02:00	0.021	mg/m^3	AEROSOL	0.038	0.018
DustTrak II 8530145205	048	09/09/2015	12:04:24	0:00:02:00	0.016	mg/m^3	AEROSOL	0.019	0.014
DustTrak II 8530145205	049	09/09/2015	12:30:37	0:00:02:00	0.014	mg/m^3	AEROSOL	0.017	0.013
DustTrak II 8530145205	050	09/09/2015	13:07:38	0:00:02:00	0.012	mg/m^3	AEROSOL	0.015	0.011
DustTrak II 8530145205	051	09/09/2015	13:33:03	0:00:02:00	0.011	mg/m^3	AEROSOL	0.015	0.010
DustTrak II 8530145205	052	09/09/2015	14:07:39	0:00:02:00	0.011	mg/m^3	AEROSOL	0.016	0.010
DustTrak II 8530145205	053	09/09/2015	14:28:22	0:00:02:00	0.015	mg/m^3	AEROSOL	0.018	0.013
DustTrak II 8530145205	054	09/09/2015	14:58:05	0:00:02:00	0.016	mg/m^3	AEROSOL	0.024	0.014
DustTrak II 8530145205	039	09/09/2015	07:39:18	0:00:02:00	0.029	mg/m^3	AEROSOL	0.050	0.025

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September 23, 2015

Mr. Timothy Boyle
Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

Re: Dust Monitoring Report #2
508 Somerville Avenue
Somerville, MA
RTN 3-32186

Dear Mr. Boyle:

As requested, the following includes the Particulate Matter (PM) Monitoring (i.e. dust monitoring) results that is being performed at the above referenced site during the RAM activities detailed in an "Amended Release Abatement Measure (RAM) Plan" dated July 22, 2015 and previously submitted to MassDEP.

IES was on-site with Soil Exploration Corporation of Leominster, MA on September 11, 2015 to supervise the final RAM remedial additive injection for the initial round and on September 21, 2015 to oversee the removal of the concrete slab/foundation at 508 Somerville Avenue. At the time of these activities an employee assigned to the project by the PRP provided dust suppression activities, which include the application of water (misting) to the paved and unpaved portions of the site, including areas where no work is being conducted.

The data enclosed (see **Attachment "A"**) represents the findings for September 11 and 21, 2015. The DustTrak II 8350 was utilized on September 11, 2015 and the handheld DustTrak DRX 5834 was utilized on September 21, 2015. Both monitors were equipped with a 2.5 micron filter and were programmed to alarm with an action level of 600 ug/m^3 or 0.6 mg/m^3 for total concentration.

The prevailing wind direction was noted each day and was monitored throughout the day. Based on the wind direction the dust monitor was subsequently placed near the fence line on the leeward side of the site. Readings were taken approximately every 20 to 30 minutes for one to two minute intervals. No readings exceeded the site specific action level. Please see attached for the PM Monitoring results.

Respectfully submitted,
IES, INC.

Christopher D. Buchanan
Project Manager

Reviewed by

Daniel Jaffe
President, LSP 2347

Attachment "A"

Dust Monitoring Documentation

IES Inc.
ENVIRONMENTAL CONSULTANTS

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak II 8530145205	056	09/11/2015	08:31:33	0:00:02:00	0.012	mg/m^3	AEROSOL	0.014	0.011
DustTrak II 8530145205	057	09/11/2015	08:59:55	0:00:02:00	0.011	mg/m^3	AEROSOL	0.014	0.010
DustTrak II 8530145205	058	09/11/2015	09:31:19	0:00:02:00	0.010	mg/m^3	AEROSOL	0.021	0.008
DustTrak II 8530145205	059	09/11/2015	10:14:18	0:00:02:00	0.009	mg/m^3	AEROSOL	0.010	0.008
DustTrak II 8530145205	060	09/11/2015	10:30:05	0:00:02:00	0.024	mg/m^3	AEROSOL	0.045	0.008
DustTrak II 8530145205	061	09/11/2015	11:01:01	0:00:02:00	0.008	mg/m^3	AEROSOL	0.011	0.007
DustTrak II 8530145205	062	09/11/2015	11:34:12	0:00:02:00	0.009	mg/m^3	AEROSOL	0.012	0.006
DustTrak II 8530145205	063	09/11/2015	12:04:16	0:00:02:00	0.011	mg/m^3	AEROSOL	0.016	0.008
DustTrak II 8530145205	055	09/11/2015	08:15:09	0:00:02:00	0.029	mg/m^3	AEROSOL	0.063	0.011

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	013	09/21/2015	07:43:10	0:00:02:00	0.007	mg/m^3	PM1	0.014	0.004
					0.007	mg/m^3	PM2.5	0.015	0.004
					0.007	mg/m^3	RESP	0.015	0.004
					0.008	mg/m^3	PM10	0.016	0.004
					0.009	mg/m^3	TOTAL	0.019	0.004
DustTrak DRX 8534120505	014	09/21/2015	08:00:25	0:00:02:00	0.005	mg/m^3	PM1	0.006	0.004
					0.005	mg/m^3	PM2.5	0.006	0.004
					0.005	mg/m^3	RESP	0.007	0.004
					0.006	mg/m^3	PM10	0.008	0.004
					0.007	mg/m^3	TOTAL	0.011	0.004
DustTrak DRX 8534120505	015	09/21/2015	08:19:56	0:00:02:00	0.007	mg/m^3	PM1	0.012	0.004
					0.007	mg/m^3	PM2.5	0.013	0.004
					0.008	mg/m^3	RESP	0.014	0.004
					0.009	mg/m^3	PM10	0.018	0.005
					0.010	mg/m^3	TOTAL	0.023	0.005
DustTrak DRX 8534120505	016	09/21/2015	09:02:39	0:00:02:00	0.008	mg/m^3	PM1	0.014	0.004
					0.009	mg/m^3	PM2.5	0.015	0.004
					0.009	mg/m^3	RESP	0.016	0.004

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	016	09/21/2015	09:02:39	0:00:02:00	0.012	mg/m^3	PM10	0.021	0.005
					0.016	mg/m^3	TOTAL	0.034	0.005
DustTrak DRX 8534120505	017	09/21/2015	09:34:56	0:00:02:00	0.029	mg/m^3	PM1	0.055	0.007
					0.032	mg/m^3	PM2.5	0.062	0.007
					0.036	mg/m^3	RESP	0.072	0.007
					0.045	mg/m^3	PM10	0.088	0.008
					0.051	mg/m^3	TOTAL	0.099	0.010
DustTrak DRX 8534120505	018	09/21/2015	10:03:14	0:00:02:00	0.019	mg/m^3	PM1	0.057	0.004
					0.020	mg/m^3	PM2.5	0.061	0.004
					0.024	mg/m^3	RESP	0.071	0.005
					0.034	mg/m^3	PM10	0.109	0.007
					0.047	mg/m^3	TOTAL	0.155	0.009
DustTrak DRX 8534120505	019	09/21/2015	10:35:05	0:00:02:00	0.022	mg/m^3	PM1	0.044	0.006
					0.024	mg/m^3	PM2.5	0.050	0.007
					0.029	mg/m^3	RESP	0.064	0.007
					0.039	mg/m^3	PM10	0.094	0.008
					0.048	mg/m^3	TOTAL	0.124	0.009
DustTrak DRX 8534120505	020	09/21/2015	11:01:15	0:00:02:00	0.020	mg/m^3	PM1	0.055	0.002

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	020	09/21/2015	11:01:15	0:00:02:00	0.022	mg/m^3	PM2.5	0.064	0.002
					0.026	mg/m^3	RESP	0.077	0.003
					0.033	mg/m^3	PM10	0.096	0.004
					0.037	mg/m^3	TOTAL	0.107	0.004
DustTrak DRX 8534120505	021	09/21/2015	11:35:31	0:00:02:00	0.012	mg/m^3	PM1	0.042	0.003
					0.013	mg/m^3	PM2.5	0.046	0.003
					0.015	mg/m^3	RESP	0.050	0.004
					0.018	mg/m^3	PM10	0.060	0.005
					0.022	mg/m^3	TOTAL	0.072	0.005
DustTrak DRX 8534120505	022	09/21/2015	11:52:57	0:00:02:00	0.015	mg/m^3	PM1	0.039	0.004
					0.017	mg/m^3	PM2.5	0.045	0.004
					0.019	mg/m^3	RESP	0.053	0.005
					0.023	mg/m^3	PM10	0.065	0.006
					0.027	mg/m^3	TOTAL	0.069	0.006
DustTrak DRX 8534120505	023	09/21/2015	12:48:22	0:00:02:00	0.033	mg/m^3	PM1	0.071	0.017
					0.037	mg/m^3	PM2.5	0.080	0.018
					0.044	mg/m^3	RESP	0.096	0.020
					0.063	mg/m^3	PM10	0.135	0.028

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	023	09/21/2015	12:48:22	0:00:02:00	0.082	mg/m^3	TOTAL	0.174	0.041
DustTrak DRX 8534120505	024	09/21/2015	13:13:07	0:00:02:00	0.002	mg/m^3	PM1	0.006	0.000
					0.003	mg/m^3	PM2.5	0.007	0.000
					0.003	mg/m^3	RESP	0.008	0.000
					0.005	mg/m^3	PM10	0.012	0.001
					0.007	mg/m^3	TOTAL	0.019	0.001
DustTrak DRX 8534120505	025	09/21/2015	13:34:40	0:00:02:00	0.031	mg/m^3	PM1	0.090	0.002
					0.035	mg/m^3	PM2.5	0.104	0.002
					0.044	mg/m^3	RESP	0.130	0.003
					0.065	mg/m^3	PM10	0.195	0.004
					0.086	mg/m^3	TOTAL	0.265	0.009
DustTrak DRX 8534120505	012	09/21/2015	07:19:30	0:00:02:00	0.004	mg/m^3	PM1	0.006	0.003
					0.005	mg/m^3	PM2.5	0.006	0.003
					0.005	mg/m^3	RESP	0.007	0.003
					0.005	mg/m^3	PM10	0.009	0.003
					0.006	mg/m^3	TOTAL	0.011	0.003

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October 6, 2015

Mr. Timothy Boyle
DEP Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

Re: Dust Monitoring Report #3
508 Somerville Avenue
Somerville, MA
RTN 3-32186

Dear Mr. Boyle:

As requested, the following includes the Particulate Matter (PM) Monitoring (i.e. dust monitoring) results being performed at the above referenced site during the RAM activities detailed in an "Amended Release Abatement Measure (RAM) Plan" dated July 22, 2015 and previously submitted to MassDEP.

Since the completion of the previous Dust Monitoring Report #2 dated September 23, 2015, IES was on-site September 24, and 25 at to oversee the removal of two abandoned in ground hydraulic lifts and the cleaning of an oil water separator (OWS). IES was also on-site October 1 and 2 to oversee foundation excavation activities.

No dust monitoring was performed on September 25th since the only activity that took place on September 25th was the cleaning of the OWS, and no soil was disturbed. No dust monitoring was performed on October 1st since IES was only on-site from 7 a.m. to 8 a.m. that day, and the contractor was only installing erosion controls. No soil excavation was conducted on October 2nd.

During the time of soil related activities, an employee assigned to the project by the PRP provided dust suppression activities, which include the application of water (misting) to the paved and unpaved portions of the site as needed.

The data enclosed (see **Attachment "A"**) represents the findings for September 24 and October 2, 2015. The handheld DustTrak DRX 5834 was utilized during this monitoring event and it was equipped with a 2.5 micron filter and programmed to alarm with an action level of 600 ug/m^3 or 0.6 mg/m^3 for total

particulate concentration.

The prevailing wind direction was noted each day and was monitored throughout the day. Based on the wind direction the dust monitor was subsequently placed near the fence line on the leeward side of the site. Readings were taken approximately every 20 to 30 minutes for one to two minute intervals. No readings exceeded the site specific action level. Please see attached for the PM Monitoring results.

However, it should be noted that a maximum reading of 0.358 mg/m^3 was recorded during the October 2, 2015, at9:25 a.m. monitoring event. The elevated reading was the result of concrete cutting dust generated by the City of Somerville DPW while performing work in the vicinity of the site.

Thank you.
Respectfully submitted,
IES, INC.

Christopher D. Buchanan
Project Manager

Reviewed by

Daniel Jaffe
President, LSP 2347

Attachment "A"

Dust Monitoring Documentation

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	027	09/24/2015	08:50:30	0:00:02:00	0.012	mg/m^3	PM1	0.016	0.009
					0.012	mg/m^3	PM2.5	0.017	0.009
					0.013	mg/m^3	RESP	0.020	0.009
					0.017	mg/m^3	PM10	0.029	0.010
					0.021	mg/m^3	TOTAL	0.039	0.011
DustTrak DRX 8534120505	028	09/24/2015	09:07:29	0:00:02:00	0.015	mg/m^3	PM1	0.025	0.009
					0.016	mg/m^3	PM2.5	0.026	0.009
					0.017	mg/m^3	RESP	0.027	0.009
					0.021	mg/m^3	PM10	0.031	0.010
					0.028	mg/m^3	TOTAL	0.042	0.010
DustTrak DRX 8534120505	029	09/24/2015	09:35:33	0:00:02:00	0.008	mg/m^3	PM1	0.009	0.007
					0.009	mg/m^3	PM2.5	0.009	0.008
					0.009	mg/m^3	RESP	0.010	0.008
					0.010	mg/m^3	PM10	0.012	0.009
					0.011	mg/m^3	TOTAL	0.015	0.009
DustTrak DRX 8534120505	030	09/24/2015	10:12:51	0:00:02:00	0.008	mg/m^3	PM1	0.012	0.007
					0.009	mg/m^3	PM2.5	0.012	0.007
					0.009	mg/m^3	RESP	0.014	0.007

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	030	09/24/2015	10:12:51	0:00:02:00	0.011	mg/m^3	PM10	0.021	0.008
					0.012	mg/m^3	TOTAL	0.023	0.009
DustTrak DRX 8534120505	031	09/24/2015	10:35:34	0:00:02:00	0.017	mg/m^3	PM1	0.032	0.009
					0.018	mg/m^3	PM2.5	0.033	0.009
					0.020	mg/m^3	RESP	0.039	0.010
					0.031	mg/m^3	PM10	0.064	0.012
					0.042	mg/m^3	TOTAL	0.093	0.014
DustTrak DRX 8534120505	032	09/24/2015	11:34:13	0:00:02:00	0.013	mg/m^3	PM1	0.029	0.008
					0.014	mg/m^3	PM2.5	0.031	0.008
					0.016	mg/m^3	RESP	0.035	0.009
					0.021	mg/m^3	PM10	0.054	0.009
					0.027	mg/m^3	TOTAL	0.070	0.009
DustTrak DRX 8534120505	033	09/24/2015	12:07:53	0:00:02:00	0.014	mg/m^3	PM1	0.029	0.008
					0.015	mg/m^3	PM2.5	0.031	0.008
					0.018	mg/m^3	RESP	0.039	0.008
					0.024	mg/m^3	PM10	0.058	0.009
					0.031	mg/m^3	TOTAL	0.076	0.011
DustTrak DRX 8534120505	034	09/24/2015	12:28:34	0:00:02:00	0.016	mg/m^3	PM1	0.030	0.009

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	034	09/24/2015	12:28:34	0:00:02:00	0.017	mg/m^3	PM2.5	0.032	0.010
					0.020	mg/m^3	RESP	0.039	0.011
					0.029	mg/m^3	PM10	0.068	0.015
					0.035	mg/m^3	TOTAL	0.084	0.017
DustTrak DRX 8534120505	035	09/24/2015	12:54:59	0:00:02:00	0.008	mg/m^3	PM1	0.011	0.006
					0.008	mg/m^3	PM2.5	0.011	0.006
					0.008	mg/m^3	RESP	0.012	0.007
					0.010	mg/m^3	PM10	0.015	0.007
					0.014	mg/m^3	TOTAL	0.025	0.008
DustTrak DRX 8534120505	036	09/24/2015	13:05:45	0:00:02:00	0.008	mg/m^3	PM1	0.014	0.006
					0.008	mg/m^3	PM2.5	0.015	0.006
					0.009	mg/m^3	RESP	0.018	0.006
					0.011	mg/m^3	PM10	0.030	0.007
					0.013	mg/m^3	TOTAL	0.034	0.008
DustTrak DRX 8534120505	037	10/02/2015	07:41:50	0:00:02:00	0.003	mg/m^3	PM1	0.004	0.002
					0.003	mg/m^3	PM2.5	0.005	0.002
					0.003	mg/m^3	RESP	0.005	0.002
					0.004	mg/m^3	PM10	0.006	0.002

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	037	10/02/2015	07:41:50	0:00:02:00	0.004	mg/m^3	TOTAL	0.009	0.002
DustTrak DRX 8534120505	038	10/02/2015	08:14:34	0:00:02:00	0.003	mg/m^3	PM1	0.003	0.003
					0.003	mg/m^3	PM2.5	0.004	0.003
					0.004	mg/m^3	RESP	0.004	0.003
					0.004	mg/m^3	PM10	0.005	0.003
					0.005	mg/m^3	TOTAL	0.007	0.003
DustTrak DRX 8534120505	039	10/02/2015	08:56:35	0:00:02:00	0.003	mg/m^3	PM1	0.003	0.002
					0.003	mg/m^3	PM2.5	0.003	0.002
					0.003	mg/m^3	RESP	0.004	0.002
					0.004	mg/m^3	PM10	0.005	0.003
					0.005	mg/m^3	TOTAL	0.007	0.003
DustTrak DRX 8534120505	040	10/02/2015	09:25:19	0:00:02:00	0.122	mg/m^3	PM1	0.167	0.023
					0.142	mg/m^3	PM2.5	0.197	0.026
					0.174	mg/m^3	RESP	0.244	0.032
					0.233	mg/m^3	PM10	0.327	0.043
					0.254	mg/m^3	TOTAL	0.358	0.048
DustTrak DRX 8534120505	041	10/02/2015	10:02:48	0:00:02:00	0.005	mg/m^3	PM1	0.010	0.002
					0.005	mg/m^3	PM2.5	0.010	0.002

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	041	10/02/2015	10:02:48	0:00:02:00	0.005	mg/m^3	RESP	0.011	0.002
					0.007	mg/m^3	PM10	0.014	0.003
					0.008	mg/m^3	TOTAL	0.017	0.003
DustTrak DRX 8534120505	042	10/02/2015	10:44:16	0:00:02:00	0.010	mg/m^3	PM1	0.024	0.006
					0.011	mg/m^3	PM2.5	0.027	0.006
					0.012	mg/m^3	RESP	0.031	0.007
					0.015	mg/m^3	PM10	0.033	0.009
					0.017	mg/m^3	TOTAL	0.035	0.009
DustTrak DRX 8534120505	043	10/02/2015	11:13:28	0:00:02:00	0.045	mg/m^3	PM1	0.088	0.020
					0.049	mg/m^3	PM2.5	0.095	0.023
					0.049	mg/m^3	RESP	0.095	0.023
					0.051	mg/m^3	PM10	0.095	0.024
					0.051	mg/m^3	TOTAL	0.095	0.026
DustTrak DRX 8534120505	044	10/02/2015	11:38:14	0:00:02:00	0.017	mg/m^3	PM1	0.039	0.004
					0.019	mg/m^3	PM2.5	0.044	0.004
					0.022	mg/m^3	RESP	0.052	0.005
					0.031	mg/m^3	PM10	0.077	0.006
					0.034	mg/m^3	TOTAL	0.083	0.007

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November 6, 2015

Mr. Timothy Boyle
Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

Re: Dust Monitoring Report #4
508 Somerville Avenue
Somerville, MA
RTN 3-32186

Dear Mr. Boyle:

As requested, the following includes the Particulate Matter (PM) Monitoring (i.e. dust monitoring) results that is being performed at the above referenced site during the RAM activities detailed in an "Amended Release Abatement Measure (RAM) Plan" dated July 22, 2015 and previously submitted to MassDEP.

Since the previous Dust Monitoring Report #3 dated October 6, 2015, IES was on-site October 28 through October 30, 2015 observe the foundation excavation activities.

During the time of soil related activities an employee assigned to the project by the PRP provided dust suppression activities, which include the application of water (misting) to the paved and unpaved portions of the site as needed.

The data enclosed represents the findings for October 28, 29 and 30, 2015. The handheld DustTrak DRX 5834 was utilized during this monitoring event and it was o equipped with a 2.5 micron filter and were programmed to alarm with an action level of 600 ug/m^3 or 0.6 mg/m^3 for total particulate concentration.

The prevailing wind direction was noted each day and was monitored throughout the day. Based on the wind direction the dust monitor was subsequently placed near the fence line on the leeward side of the site. Readings were taken approximately every 20 to 30 minutes for one to two minute intervals. No readings exceeded the site specific action level. Please see attached for the PM Monitoring results.

Thank you.
Respectfully submitted,
IES, INC.

Christopher D. Buchanan
Project Manager

Reviewed by

Daniel Jaffe
President, LSP 2347

IES Inc.
ENVIRONMENTAL CONSULTANTS

Dust Monitoring Results

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	046	10/28/2015	09:47:19	0:00:02:00	0.008	mg/m^3	PM1	0.010	0.006
					0.008	mg/m^3	PM2.5	0.011	0.006
					0.009	mg/m^3	RESP	0.011	0.007
					0.010	mg/m^3	PM10	0.012	0.007
					0.011	mg/m^3	TOTAL	0.013	0.009
DustTrak DRX 8534120505	047	10/28/2015	10:25:01	0:00:02:00	0.023	mg/m^3	PM1	0.055	0.007
					0.024	mg/m^3	PM2.5	0.058	0.007
					0.027	mg/m^3	RESP	0.064	0.008
					0.039	mg/m^3	PM10	0.093	0.009
					0.055	mg/m^3	TOTAL	0.132	0.013
DustTrak DRX 8534120505	048	10/28/2015	10:47:17	0:00:02:00	0.007	mg/m^3	PM1	0.009	0.005
					0.008	mg/m^3	PM2.5	0.010	0.006
					0.008	mg/m^3	RESP	0.011	0.006
					0.010	mg/m^3	PM10	0.015	0.007
					0.014	mg/m^3	TOTAL	0.019	0.008
DustTrak DRX 8534120505	049	10/28/2015	11:33:08	0:00:02:00	0.032	mg/m^3	PM1	0.065	0.008
					0.034	mg/m^3	PM2.5	0.068	0.009
					0.037	mg/m^3	RESP	0.077	0.011

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	049	10/28/2015	11:33:08	0:00:02:00	0.056	mg/m^3	PM10	0.122	0.014
					0.079	mg/m^3	TOTAL	0.167	0.019
DustTrak DRX 8534120505	050	10/28/2015	11:55:40	0:00:02:00	0.008	mg/m^3	PM1	0.009	0.007
					0.009	mg/m^3	PM2.5	0.010	0.007
					0.009	mg/m^3	RESP	0.011	0.007
					0.011	mg/m^3	PM10	0.014	0.008
					0.014	mg/m^3	TOTAL	0.018	0.009
DustTrak DRX 8534120505	051	10/28/2015	13:13:03	0:00:02:00	0.014	mg/m^3	PM1	0.043	0.007
					0.015	mg/m^3	PM2.5	0.044	0.008
					0.015	mg/m^3	RESP	0.045	0.008
					0.018	mg/m^3	PM10	0.051	0.009
					0.022	mg/m^3	TOTAL	0.067	0.010
DustTrak DRX 8534120505	052	10/28/2015	14:10:37	0:00:02:00	0.009	mg/m^3	PM1	0.011	0.007
					0.009	mg/m^3	PM2.5	0.012	0.008
					0.010	mg/m^3	RESP	0.013	0.008
					0.012	mg/m^3	PM10	0.014	0.009
					0.013	mg/m^3	TOTAL	0.016	0.010
DustTrak DRX 8534120505	053	10/28/2015	14:35:24	0:00:02:00	0.009	mg/m^3	PM1	0.013	0.007

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	053	10/28/2015	14:35:24	0:00:02:00	0.009	mg/m^3	PM2.5	0.013	0.008
					0.010	mg/m^3	RESP	0.013	0.008
					0.010	mg/m^3	PM10	0.014	0.008
					0.012	mg/m^3	TOTAL	0.016	0.008
DustTrak DRX 8534120505	054	10/28/2015	14:50:50	0:00:02:00	0.010	mg/m^3	PM1	0.017	0.008
					0.011	mg/m^3	PM2.5	0.018	0.009
					0.011	mg/m^3	RESP	0.018	0.009
					0.013	mg/m^3	PM10	0.022	0.009
					0.015	mg/m^3	TOTAL	0.031	0.009
DustTrak DRX 8534120505	055	10/28/2015	15:13:29	0:00:02:00	0.018	mg/m^3	PM1	0.032	0.008
					0.018	mg/m^3	PM2.5	0.033	0.008
					0.018	mg/m^3	RESP	0.033	0.008
					0.020	mg/m^3	PM10	0.034	0.009
					0.020	mg/m^3	TOTAL	0.034	0.010
DustTrak DRX 8534120505	056	10/28/2015	15:31:17	0:00:02:00	0.009	mg/m^3	PM1	0.010	0.008
					0.009	mg/m^3	PM2.5	0.010	0.008
					0.010	mg/m^3	RESP	0.011	0.008
					0.010	mg/m^3	PM10	0.011	0.009

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	056	10/28/2015	15:31:17	0:00:02:00	0.011	mg/m^3	TOTAL	0.013	0.009
DustTrak DRX 8534120505	057	10/29/2015	11:03:29	0:00:02:00	0.006	mg/m^3	PM1	0.010	0.004
					0.006	mg/m^3	PM2.5	0.011	0.005
					0.006	mg/m^3	RESP	0.011	0.005
					0.007	mg/m^3	PM10	0.011	0.005
					0.007	mg/m^3	TOTAL	0.011	0.005
DustTrak DRX 8534120505	058	10/29/2015	11:38:28	0:00:02:00	0.001	mg/m^3	PM1	0.003	0.000
					0.001	mg/m^3	PM2.5	0.003	0.001
					0.002	mg/m^3	RESP	0.003	0.001
					0.002	mg/m^3	PM10	0.004	0.001
					0.002	mg/m^3	TOTAL	0.006	0.001
DustTrak DRX 8534120505	059	10/29/2015	11:55:41	0:00:02:00	0.001	mg/m^3	PM1	0.004	0.000
					0.001	mg/m^3	PM2.5	0.004	0.000
					0.001	mg/m^3	RESP	0.004	0.000
					0.001	mg/m^3	PM10	0.004	0.000
					0.001	mg/m^3	TOTAL	0.006	0.000
DustTrak DRX 8534120505	060	10/29/2015	13:42:04	0:00:02:00	0.002	mg/m^3	PM1	0.004	0.000
					0.002	mg/m^3	PM2.5	0.004	0.000

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	060	10/29/2015	13:42:04	0:00:02:00	0.002	mg/m^3	RESP	0.004	0.000
					0.003	mg/m^3	PM10	0.008	0.000
					0.006	mg/m^3	TOTAL	0.014	0.000
DustTrak DRX 8534120505	061	10/29/2015	14:12:22	0:00:02:00	-0.002	mg/m^3	PM1	-0.002	-0.002
					-0.002	mg/m^3	PM2.5	-0.002	-0.002
					-0.002	mg/m^3	RESP	-0.002	-0.002
					-0.002	mg/m^3	PM10	-0.002	-0.002
					-0.002	mg/m^3	TOTAL	-0.002	-0.002
DustTrak DRX 8534120505	062	10/30/2015	07:26:24	0:00:02:00	0.014	mg/m^3	PM1	0.018	0.012
					0.015	mg/m^3	PM2.5	0.019	0.012
					0.016	mg/m^3	RESP	0.021	0.012
					0.020	mg/m^3	PM10	0.032	0.014
					0.026	mg/m^3	TOTAL	0.043	0.018
DustTrak DRX 8534120505	063	10/30/2015	07:50:42	0:00:02:00	0.021	mg/m^3	PM1	0.041	0.012
					0.022	mg/m^3	PM2.5	0.044	0.012
					0.023	mg/m^3	RESP	0.049	0.013
					0.028	mg/m^3	PM10	0.066	0.015
					0.034	mg/m^3	TOTAL	0.080	0.018

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	064	10/30/2015	08:20:29	0:00:02:00	0.020	mg/m^3	PM1	0.039	0.012
					0.021	mg/m^3	PM2.5	0.039	0.013
					0.023	mg/m^3	RESP	0.040	0.014
					0.026	mg/m^3	PM10	0.042	0.015
					0.030	mg/m^3	TOTAL	0.044	0.016
DustTrak DRX 8534120505	065	10/30/2015	08:39:09	0:00:02:00	0.013	mg/m^3	PM1	0.017	0.008
					0.013	mg/m^3	PM2.5	0.017	0.009
					0.014	mg/m^3	RESP	0.019	0.009
					0.018	mg/m^3	PM10	0.025	0.010
					0.021	mg/m^3	TOTAL	0.034	0.010
DustTrak DRX 8534120505	066	10/30/2015	09:15:53	0:00:02:00	0.043	mg/m^3	PM1	0.068	0.016
					0.043	mg/m^3	PM2.5	0.069	0.016
					0.044	mg/m^3	RESP	0.070	0.016
					0.046	mg/m^3	PM10	0.072	0.017
					0.049	mg/m^3	TOTAL	0.076	0.017
DustTrak DRX 8534120505	067	10/30/2015	09:56:43	0:00:02:00	0.009	mg/m^3	PM1	0.014	0.005
					0.009	mg/m^3	PM2.5	0.015	0.005
					0.010	mg/m^3	RESP	0.017	0.006

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	067	10/30/2015	09:56:43	0:00:02:00	0.013	mg/m^3	PM10	0.021	0.008
					0.016	mg/m^3	TOTAL	0.028	0.008
DustTrak DRX 8534120505	068	10/30/2015	10:23:36	0:00:02:00	0.005	mg/m^3	PM1	0.007	0.003
					0.005	mg/m^3	PM2.5	0.007	0.003
					0.006	mg/m^3	RESP	0.008	0.004
					0.007	mg/m^3	PM10	0.010	0.005
					0.011	mg/m^3	TOTAL	0.015	0.007
DustTrak DRX 8534120505	069	10/30/2015	10:54:44	0:00:02:00	0.002	mg/m^3	PM1	0.010	0.000
					0.003	mg/m^3	PM2.5	0.011	0.000
					0.004	mg/m^3	RESP	0.013	0.000
					0.006	mg/m^3	PM10	0.021	0.001
					0.009	mg/m^3	TOTAL	0.034	0.001
DustTrak DRX 8534120505	070	10/30/2015	11:27:32	0:00:02:00	0.005	mg/m^3	PM1	0.007	0.003
					0.005	mg/m^3	PM2.5	0.007	0.004
					0.006	mg/m^3	RESP	0.009	0.004
					0.009	mg/m^3	PM10	0.014	0.006
					0.013	mg/m^3	TOTAL	0.022	0.006
DustTrak DRX 8534120505	071	10/30/2015	11:47:58	0:00:02:00	0.008	mg/m^3	PM1	0.013	0.003

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	071	10/30/2015	11:47:58	0:00:02:00	0.008	mg/m^3	PM2.5	0.014	0.003
					0.008	mg/m^3	RESP	0.014	0.004
					0.011	mg/m^3	PM10	0.018	0.006
					0.012	mg/m^3	TOTAL	0.018	0.007
DustTrak DRX 8534120505	072	10/30/2015	13:12:18	0:00:02:00	0.009	mg/m^3	PM1	0.014	0.002
					0.009	mg/m^3	PM2.5	0.014	0.002
					0.010	mg/m^3	RESP	0.015	0.003
					0.012	mg/m^3	PM10	0.022	0.003
					0.015	mg/m^3	TOTAL	0.026	0.003
DustTrak DRX 8534120505	073	10/30/2015	13:39:29	0:00:02:00	0.006	mg/m^3	PM1	0.009	0.004
					0.006	mg/m^3	PM2.5	0.010	0.004
					0.007	mg/m^3	RESP	0.011	0.005
					0.010	mg/m^3	PM10	0.016	0.006
					0.014	mg/m^3	TOTAL	0.023	0.006
DustTrak DRX 8534120505	074	10/30/2015	13:55:13	0:00:02:00	0.003	mg/m^3	PM1	0.006	0.001
					0.003	mg/m^3	PM2.5	0.007	0.001
					0.003	mg/m^3	RESP	0.007	0.001
					0.004	mg/m^3	PM10	0.008	0.001

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	074	10/30/2015	13:55:13	0:00:02:00	0.005	mg/m^3	TOTAL	0.009	0.001
DustTrak DRX 8534120505	075	10/30/2015	14:09:00	0:00:02:00	0.005	mg/m^3	PM1	0.014	0.001
					0.006	mg/m^3	PM2.5	0.015	0.002
					0.007	mg/m^3	RESP	0.017	0.002
					0.009	mg/m^3	PM10	0.022	0.002
					0.014	mg/m^3	TOTAL	0.037	0.004
DustTrak DRX 8534120505	076	10/30/2015	14:31:59	0:00:02:00	0.006	mg/m^3	PM1	0.012	0.004
					0.006	mg/m^3	PM2.5	0.013	0.004
					0.007	mg/m^3	RESP	0.014	0.004
					0.008	mg/m^3	PM10	0.016	0.005
					0.010	mg/m^3	TOTAL	0.016	0.007
DustTrak DRX 8534120505	077	10/30/2015	14:55:19	0:00:02:00	0.009	mg/m^3	PM1	0.017	0.004
					0.009	mg/m^3	PM2.5	0.017	0.004
					0.009	mg/m^3	RESP	0.018	0.005
					0.010	mg/m^3	PM10	0.019	0.006
					0.011	mg/m^3	TOTAL	0.020	0.007
DustTrak DRX 8534120505	078	10/30/2015	15:08:06	0:00:02:00	0.008	mg/m^3	PM1	0.012	0.005
					0.009	mg/m^3	PM2.5	0.012	0.005

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November 25, 2015

Mr. Timothy Boyle
Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

Re: Dust Monitoring Report #5
508 Somerville Avenue
Somerville, MA
RTN 3-32186

Dear Mr. Boyle:

As requested, the following includes the Particulate Matter (PM) Monitoring (i.e. dust monitoring) results that is being performed at the above referenced site during the RAM activities detailed in an "Amended Release Abatement Measure (RAM) Plan" dated July 22, 2015 and previously submitted to MassDEP.

Since the previous Dust Monitoring Report #4 dated November 6, 2015, IES was on-site November 9, 10, 13, 16 and 17, 2015 to observe the foundation excavation/backfilling and utility trenching and backfilling activities.

During the time of soil related activities an employee assigned to the project by the PRP provided dust suppression activities, which include the application of water (misting) to the paved and unpaved portions of the site, as needed.

The data enclosed represents the findings for November 9, 10, 13, 16 and 17, 2015 The handheld DustTrak DRX 5834 was utilized during this monitoring event and it was o equipped with a 2.5 micron filter and were programmed to alarm with an action level of 600 ug/m^3 or 0.6 mg/m^3 for total particulate concentration.

The prevailing wind direction was noted each day and was monitored throughout the day. Based on the wind direction the dust monitor was subsequently placed near the fence line on the leeward side of the site. Readings were taken approximately every 20 to 30 minutes for one to two minute intervals. No RAM related activity triggered an exceedance of the site specific action level. Please see attached for the PM Monitoring results.

Please note an average reading up to 1.340 mg/m^3 was recorded on November 9, 2015 (Test #89) above the applicable 0.6 mg/m^3 action level. However, at the time of Test #89 there were no obvious dust generating activities ongoing, and two construction workers were observed smoking cigarettes near the

dust monitor and were asked to extinguish their cigarettes. A subsequent dust monitoring event (test #90) conducted immediately following the removal of the smokers revealed no exceedance of the site action level. A subsequent cigarette smoke test (Test #93) was conducted and confirmed that cigarette smoke can trigger exceedances of the site action level.

Thank you.

Respectfully submitted,
IES, INC.

Christopher D. Buchanan
Project Manager

Reviewed by

Daniel Jaffe
President, LSP 2347

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	080	11/09/2015	10:34:58	0:00:02:00	0.011	mg/m^3	PM1	0.014	0.009
					0.011	mg/m^3	PM2.5	0.014	0.009
					0.013	mg/m^3	RESP	0.017	0.010
					0.020	mg/m^3	PM10	0.034	0.014
					0.026	mg/m^3	TOTAL	0.043	0.017
DustTrak DRX 8534120505	081	11/09/2015	10:59:10	0:00:02:00	0.026	mg/m^3	PM1	0.039	0.017
					0.027	mg/m^3	PM2.5	0.040	0.018
					0.031	mg/m^3	RESP	0.046	0.021
					0.054	mg/m^3	PM10	0.076	0.038
					0.074	mg/m^3	TOTAL	0.110	0.045
DustTrak DRX 8534120505	082	11/09/2015	11:06:10	0:00:02:00	0.014	mg/m^3	PM1	0.026	0.006
					0.015	mg/m^3	PM2.5	0.027	0.006
					0.017	mg/m^3	RESP	0.031	0.007
					0.027	mg/m^3	PM10	0.048	0.010
					0.034	mg/m^3	TOTAL	0.063	0.012
DustTrak DRX 8534120505	083	11/09/2015	11:36:27	0:00:02:00	0.016	mg/m^3	PM1	0.028	0.011
					0.016	mg/m^3	PM2.5	0.029	0.011
					0.019	mg/m^3	RESP	0.034	0.013

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	083	11/09/2015	11:36:27	0:00:02:00	0.032	mg/m^3	PM10	0.059	0.020
					0.044	mg/m^3	TOTAL	0.082	0.032
DustTrak DRX 8534120505	084	11/09/2015	12:12:13	0:00:02:00	0.008	mg/m^3	PM1	0.016	0.004
					0.009	mg/m^3	PM2.5	0.016	0.004
					0.010	mg/m^3	RESP	0.018	0.004
					0.016	mg/m^3	PM10	0.026	0.007
					0.021	mg/m^3	TOTAL	0.036	0.007
DustTrak DRX 8534120505	085	11/09/2015	12:47:53	0:00:02:00	0.018	mg/m^3	PM1	0.024	0.012
					0.019	mg/m^3	PM2.5	0.025	0.013
					0.021	mg/m^3	RESP	0.029	0.014
					0.030	mg/m^3	PM10	0.050	0.020
					0.043	mg/m^3	TOTAL	0.073	0.030
DustTrak DRX 8534120505	086	11/09/2015	13:31:34	0:00:02:00	0.023	mg/m^3	PM1	0.049	0.005
					0.025	mg/m^3	PM2.5	0.055	0.006
					0.029	mg/m^3	RESP	0.062	0.007
					0.043	mg/m^3	PM10	0.075	0.013
					0.052	mg/m^3	TOTAL	0.084	0.017
DustTrak DRX 8534120505	087	11/09/2015	14:08:33	0:00:02:00	0.010	mg/m^3	PM1	0.018	0.005

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	087	11/09/2015	14:08:33	0:00:02:00	0.010	mg/m^3	PM2.5	0.019	0.005
					0.012	mg/m^3	RESP	0.021	0.006
					0.018	mg/m^3	PM10	0.033	0.008
					0.027	mg/m^3	TOTAL	0.055	0.011
DustTrak DRX 8534120505	088	11/09/2015	14:45:12	0:00:02:00	0.009	mg/m^3	PM1	0.014	0.006
					0.009	mg/m^3	PM2.5	0.015	0.007
					0.011	mg/m^3	RESP	0.018	0.007
					0.015	mg/m^3	PM10	0.022	0.010
					0.019	mg/m^3	TOTAL	0.029	0.011
DustTrak DRX 8534120505	089	11/09/2015	15:43:26	0:00:02:00	0.459	mg/m^3	PM1	1.410	0.033
					0.512	mg/m^3	PM2.5	1.560	0.036
					0.650	mg/m^3	RESP	1.950	0.043
					1.060	mg/m^3	PM10	3.110	0.061
					1.340	mg/m^3	TOTAL	3.890	0.083
DustTrak DRX 8534120505	090	11/09/2015	15:47:06	0:00:02:00	0.013	mg/m^3	PM1	0.023	0.009
					0.014	mg/m^3	PM2.5	0.024	0.010
					0.015	mg/m^3	RESP	0.026	0.011
					0.023	mg/m^3	PM10	0.038	0.019

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	090	11/09/2015	15:47:06	0:00:02:00	0.033	mg/m^3	TOTAL	0.061	0.024
DustTrak DRX 8534120505	091	11/09/2015	16:03:48	0:00:02:00	0.045	mg/m^3	PM1	0.066	0.017
					0.048	mg/m^3	PM2.5	0.069	0.018
					0.054	mg/m^3	RESP	0.078	0.020
					0.086	mg/m^3	PM10	0.131	0.029
					0.121	mg/m^3	TOTAL	0.192	0.051
DustTrak DRX 8534120505	092	11/09/2015	16:15:02	0:00:02:00	0.017	mg/m^3	PM1	0.030	0.008
					0.018	mg/m^3	PM2.5	0.032	0.009
					0.021	mg/m^3	RESP	0.038	0.011
					0.034	mg/m^3	PM10	0.065	0.015
					0.044	mg/m^3	TOTAL	0.094	0.017
DustTrak DRX 8534120505	093	11/09/2015	16:26:53	0:00:00:00	3.280	mg/m^3	PM1	6.500	0.058
					3.320	mg/m^3	PM2.5	6.570	0.060
					3.320	mg/m^3	RESP	6.580	0.064
					3.350	mg/m^3	PM10	6.620	0.084
					3.400	mg/m^3	TOTAL	6.680	0.120
DustTrak DRX 8534120505	095	11/10/2015	13:20:12	0:00:02:00	0.033	mg/m^3	PM1	0.049	0.019
					0.035	mg/m^3	PM2.5	0.052	0.020

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	095	11/10/2015	13:20:12	0:00:02:00	0.039	mg/m^3	RESP	0.058	0.022
					0.054	mg/m^3	PM10	0.079	0.028
					0.069	mg/m^3	TOTAL	0.106	0.034
DustTrak DRX 8534120505	096	11/10/2015	13:46:27	0:00:02:00	0.022	mg/m^3	PM1	0.030	0.016
					0.022	mg/m^3	PM2.5	0.031	0.016
					0.023	mg/m^3	RESP	0.033	0.017
					0.031	mg/m^3	PM10	0.046	0.020
					0.038	mg/m^3	TOTAL	0.060	0.022
DustTrak DRX 8534120505	097	11/10/2015	14:14:08	0:00:02:00	0.034	mg/m^3	PM1	0.053	0.020
					0.036	mg/m^3	PM2.5	0.057	0.021
					0.040	mg/m^3	RESP	0.066	0.022
					0.057	mg/m^3	PM10	0.099	0.026
					0.073	mg/m^3	TOTAL	0.135	0.031
DustTrak DRX 8534120505	094	11/10/2015	14:14:28	0:00:02:00	0.026	mg/m^3	PM1	0.042	0.018
					0.027	mg/m^3	PM2.5	0.044	0.019
					0.029	mg/m^3	RESP	0.047	0.019
					0.040	mg/m^3	PM10	0.079	0.022
					0.058	mg/m^3	TOTAL	0.147	0.025

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	098	11/10/2015	15:06:43	0:00:02:00	0.022	mg/m^3	PM1	0.026	0.016
					0.023	mg/m^3	PM2.5	0.028	0.016
					0.025	mg/m^3	RESP	0.032	0.017
					0.033	mg/m^3	PM10	0.045	0.021
					0.043	mg/m^3	TOTAL	0.064	0.024
DustTrak DRX 8534120505	099	11/13/2015	13:51:46	0:00:02:00	0.031	mg/m^3	PM1	0.100	0.013
					0.032	mg/m^3	PM2.5	0.103	0.013
					0.036	mg/m^3	RESP	0.116	0.015
					0.076	mg/m^3	PM10	0.307	0.022
					0.130	mg/m^3	TOTAL	0.577	0.033
DustTrak DRX 8534120505	100	11/13/2015	14:43:47	0:00:02:00	0.006	mg/m^3	PM1	0.008	0.004
					0.006	mg/m^3	PM2.5	0.008	0.004
					0.006	mg/m^3	RESP	0.009	0.004
					0.009	mg/m^3	PM10	0.017	0.005
					0.012	mg/m^3	TOTAL	0.020	0.005
DustTrak DRX 8534120505	101	11/16/2015	08:04:43	0:00:02:00	0.022	mg/m^3	PM1	0.025	0.020
					0.023	mg/m^3	PM2.5	0.025	0.021
					0.023	mg/m^3	RESP	0.026	0.021

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	101	11/16/2015	08:04:43	0:00:02:00	0.026	mg/m^3	PM10	0.030	0.022
					0.029	mg/m^3	TOTAL	0.039	0.022
DustTrak DRX 8534120505	102	11/16/2015	08:28:42	0:00:02:00	0.020	mg/m^3	PM1	0.021	0.019
					0.020	mg/m^3	PM2.5	0.021	0.020
					0.021	mg/m^3	RESP	0.022	0.020
					0.022	mg/m^3	PM10	0.024	0.021
					0.023	mg/m^3	TOTAL	0.025	0.021
DustTrak DRX 8534120505	103	11/16/2015	09:00:22	0:00:02:00	0.020	mg/m^3	PM1	0.021	0.019
					0.020	mg/m^3	PM2.5	0.021	0.019
					0.021	mg/m^3	RESP	0.021	0.020
					0.022	mg/m^3	PM10	0.023	0.021
					0.023	mg/m^3	TOTAL	0.026	0.021
DustTrak DRX 8534120505	104	11/16/2015	09:30:30	0:00:02:00	0.018	mg/m^3	PM1	0.018	0.017
					0.018	mg/m^3	PM2.5	0.019	0.017
					0.018	mg/m^3	RESP	0.019	0.017
					0.019	mg/m^3	PM10	0.021	0.018
					0.020	mg/m^3	TOTAL	0.022	0.018
DustTrak DRX 8534120505	105	11/16/2015	09:58:52	0:00:02:00	0.033	mg/m^3	PM1	0.064	0.019

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	105	11/16/2015	09:58:52	0:00:02:00	0.034	mg/m^3	PM2.5	0.065	0.019
					0.034	mg/m^3	RESP	0.066	0.020
					0.038	mg/m^3	PM10	0.073	0.022
					0.042	mg/m^3	TOTAL	0.078	0.024
DustTrak DRX 8534120505	106	11/16/2015	10:31:44	0:00:02:00	0.022	mg/m^3	PM1	0.032	0.017
					0.022	mg/m^3	PM2.5	0.033	0.017
					0.023	mg/m^3	RESP	0.035	0.018
					0.027	mg/m^3	PM10	0.044	0.018
					0.029	mg/m^3	TOTAL	0.048	0.020
DustTrak DRX 8534120505	107	11/16/2015	11:00:53	0:00:02:00	0.020	mg/m^3	PM1	0.023	0.017
					0.021	mg/m^3	PM2.5	0.023	0.018
					0.021	mg/m^3	RESP	0.023	0.018
					0.022	mg/m^3	PM10	0.024	0.020
					0.022	mg/m^3	TOTAL	0.024	0.020
DustTrak DRX 8534120505	108	11/16/2015	11:31:37	0:00:02:00	0.011	mg/m^3	PM1	0.013	0.010
					0.012	mg/m^3	PM2.5	0.013	0.011
					0.012	mg/m^3	RESP	0.013	0.011
					0.013	mg/m^3	PM10	0.014	0.011

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	108	11/16/2015	11:31:37	0:00:02:00	0.014	mg/m^3	TOTAL	0.018	0.011
DustTrak DRX 8534120505	109	11/16/2015	12:07:03	0:00:02:00	0.010	mg/m^3	PM1	0.012	0.009
					0.011	mg/m^3	PM2.5	0.012	0.010
					0.011	mg/m^3	RESP	0.013	0.010
					0.014	mg/m^3	PM10	0.016	0.011
					0.014	mg/m^3	TOTAL	0.016	0.011
DustTrak DRX 8534120505	110	11/16/2015	12:32:58	0:00:02:00	0.010	mg/m^3	PM1	0.013	0.009
					0.010	mg/m^3	PM2.5	0.014	0.009
					0.011	mg/m^3	RESP	0.015	0.009
					0.013	mg/m^3	PM10	0.017	0.010
					0.015	mg/m^3	TOTAL	0.028	0.011
DustTrak DRX 8534120505	111	11/16/2015	13:04:54	0:00:02:00	0.010	mg/m^3	PM1	0.015	0.005
					0.010	mg/m^3	PM2.5	0.016	0.005
					0.012	mg/m^3	RESP	0.018	0.006
					0.018	mg/m^3	PM10	0.027	0.006
					0.022	mg/m^3	TOTAL	0.036	0.006
DustTrak DRX 8534120505	112	11/16/2015	13:34:30	0:00:02:00	0.013	mg/m^3	PM1	0.049	0.005
					0.014	mg/m^3	PM2.5	0.053	0.006

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	112	11/16/2015	13:34:30	0:00:02:00	0.017	mg/m^3	RESP	0.066	0.006
					0.025	mg/m^3	PM10	0.110	0.007
					0.031	mg/m^3	TOTAL	0.136	0.007
DustTrak DRX 8534120505	113	11/16/2015	14:05:36	0:00:02:00	0.026	mg/m^3	PM1	0.058	0.007
					0.028	mg/m^3	PM2.5	0.063	0.008
					0.035	mg/m^3	RESP	0.078	0.009
					0.058	mg/m^3	PM10	0.131	0.012
					0.075	mg/m^3	TOTAL	0.183	0.016
DustTrak DRX 8534120505	114	11/17/2015	09:47:47	0:00:02:00	0.010	mg/m^3	PM1	0.026	0.001
					0.011	mg/m^3	PM2.5	0.028	0.002
					0.014	mg/m^3	RESP	0.035	0.002
					0.023	mg/m^3	PM10	0.064	0.003
					0.036	mg/m^3	TOTAL	0.102	0.005
DustTrak DRX 8534120505	115	11/17/2015	10:38:17	0:00:02:00	0.001	mg/m^3	PM1	0.003	0.000
					0.001	mg/m^3	PM2.5	0.003	0.000
					0.002	mg/m^3	RESP	0.004	0.001
					0.003	mg/m^3	PM10	0.005	0.001
					0.004	mg/m^3	TOTAL	0.005	0.003

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	116	11/17/2015	10:56:54	0:00:02:00	0.000	mg/m^3	PM1	0.000	0.000
					0.000	mg/m^3	PM2.5	0.000	0.000
					0.000	mg/m^3	RESP	0.000	0.000
					0.000	mg/m^3	PM10	0.001	0.000
					0.001	mg/m^3	TOTAL	0.002	0.000
DustTrak DRX 8534120505	117	11/17/2015	11:31:36	0:00:02:00	0.007	mg/m^3	PM1	0.016	0.004
					0.007	mg/m^3	PM2.5	0.016	0.004
					0.007	mg/m^3	RESP	0.017	0.004
					0.009	mg/m^3	PM10	0.022	0.004
					0.012	mg/m^3	TOTAL	0.032	0.005
DustTrak DRX 8534120505	118	11/17/2015	12:05:19	0:00:02:00	0.006	mg/m^3	PM1	0.008	0.004
					0.006	mg/m^3	PM2.5	0.008	0.004
					0.007	mg/m^3	RESP	0.010	0.004
					0.010	mg/m^3	PM10	0.018	0.005
					0.012	mg/m^3	TOTAL	0.023	0.005
DustTrak DRX 8534120505	119	11/17/2015	12:33:53	0:00:02:00	0.006	mg/m^3	PM1	0.010	0.004
					0.007	mg/m^3	PM2.5	0.011	0.004
					0.007	mg/m^3	RESP	0.011	0.004

Instrument [S/N]	Test #	Date	Start Time	Duration dd:hh:mm:ss	Average	Units	Channel	Maximum	Minimum
DustTrak DRX 8534120505	119	11/17/2015	12:33:53	0:00:02:00	0.008	mg/m^3	PM10	0.015	0.004
					0.009	mg/m^3	TOTAL	0.017	0.004
DustTrak DRX 8534120505	120	11/17/2015	15:04:30	0:00:02:00	0.011	mg/m^3	PM1	0.013	0.010
					0.011	mg/m^3	PM2.5	0.014	0.010
					0.012	mg/m^3	RESP	0.016	0.010
					0.014	mg/m^3	PM10	0.021	0.011
					0.015	mg/m^3	TOTAL	0.021	0.011
DustTrak DRX 8534120505	079	11/09/2015	09:45:13	0:00:02:00	0.015	mg/m^3	PM1	0.022	0.008
					0.015	mg/m^3	PM2.5	0.022	0.008
					0.017	mg/m^3	RESP	0.025	0.009
					0.024	mg/m^3	PM10	0.037	0.010
					0.030	mg/m^3	TOTAL	0.055	0.011

ATTACHMENT "D"

Laboratory Reports
Chain of Custody

PHOENIX
Environmental Laboratories, Inc.

Tuesday, September 15, 2015

Attn: Mr Chris Buchanan
IES, Inc.
50 Salem Street, Building A-Suite 108
Lynnfield, MA 01940

Project ID: 508 SOMERVILLE AVE
Sample ID#s: BJ86217 - BJ86221

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 15, 2015

FOR: Attn: Mr Chris Buchanan
IES, Inc.
50 Salem Street, Building A-Suite 108
Lynnfield, MA 01940

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JB	09/02/15	9:19
Location Code:	IESINC	Received by:	LK	09/03/15	15:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ86217
Phoenix ID: BJ86217

Project ID: 508 SOMERVILLE AVE
Client ID: IES-4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
MA Petroleum Hydrocarbon (VPH)	Completed				09/11/15	LA	MADEP VPH04
MA VPH Aliphatic/Aromatic Ranges							
C5-C8 Aliphatic Hydrocarbons *1,2	1.5	1	mg/L	10	09/11/15	LA	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	3	0.33	mg/L	10	09/11/15	LA	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	2.3	0.33	mg/L	10	09/11/15	LA	MA VPH 5/2004
Unadjusted C5-C8 Aliphatics (*1)	3.1	1	mg/L	10	09/11/15	LA	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	5.2	1	mg/L	10	09/11/15	LA	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	103		%	1	09/10/15	LA	70 - 130 %
% 2,5-Dibromotoluene (PID)	107		%	1	09/10/15	LA	70 - 130 %
VPH Target Analytes							
Benzene	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004
Ethyl Benzene	0.36	0.01	mg/L	10	09/11/15	LA	MA VPH 5/2004
m,p-Xylenes	0.77	0.02	mg/L	10	09/11/15	LA	MA VPH 5/2004
MTBE	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004
Naphthalene	0.18	0.05	mg/L	10	09/11/15	LA	MA VPH 5/2004
o-Xylene	0.38	0.01	mg/L	10	09/11/15	LA	MA VPH 5/2004
Toluene	0.14	0.01	mg/L	10	09/11/15	LA	MA VPH 5/2004

Project ID: 508 SOMERVILLE AVE
Client ID: IES-4

Phoenix I.D.: BJ86217

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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Phyllis Shiller, Laboratory Director
September 15, 2015
Reviewed and Released by: Ethan Lee, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 15, 2015

FOR: Attn: Mr Chris Buchanan
IES, Inc.
50 Salem Street, Building A-Suite 108
Lynnfield, MA 01940

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JB	09/02/15	8:51
Location Code:	IESINC	Received by:	LK	09/03/15	15:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ86217
Phoenix ID: BJ86218

Project ID: 508 SOMERVILLE AVE
Client ID: IES-101

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Calcium (Dissolved)	68.9	0.01	mg/L	1	09/04/15	LK	SW6010C	B
Iron (Dissolved)	5.57	0.011	mg/L	1	09/04/15	LK	SW6010C	
Manganese (Dissolved)	1.16	0.001	mg/L	1	09/04/15	LK	SW6010C	
Conductivity	746	5	umhos/cm	1	09/03/15	RR/EG	SM2510B-97	
Dissolved Metals Preparation	Completed				09/03/15	AG		
MA Petroleum Hydrocarbon (VPH)	Completed				09/11/15	LA	MADEP VPH04	
MA VPH Aliphatic/Aromatic Ranges								
C5-C8 Aliphatic Hydrocarbons *1,2	3.4	1	mg/L	10	09/11/15	LA	MA VPH 5/2004	
C9-C10 Aromatic Hydrocarbons *1	1.9	0.33	mg/L	10	09/11/15	LA	MA VPH 5/2004	
C9-C12 Aliphatic Hydrocarbons *1,3	1.3	0.33	mg/L	10	09/11/15	LA	MA VPH 5/2004	
Unadjusted C5-C8 Aliphatics (*1)	5.3	1	mg/L	10	09/11/15	LA	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	3.3	1	mg/L	10	09/11/15	LA	MA VPH 5/2004	
QA/QC Surrogates								
% 2,5-Dibromotoluene (FID)	103		%	1	09/10/15	LA	70 - 130 %	
% 2,5-Dibromotoluene (PID)	106		%	1	09/10/15	LA	70 - 130 %	
VPH Target Analytes								
Benzene	0.016	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Ethyl Benzene	0.4	0.01	mg/L	10	09/11/15	LA	MA VPH 5/2004	
m,p-Xylenes	1.1	0.02	mg/L	10	09/11/15	LA	MA VPH 5/2004	
MTBE	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Naphthalene	0.2	0.05	mg/L	10	09/11/15	LA	MA VPH 5/2004	
o-Xylene	0.52	0.01	mg/L	10	09/11/15	LA	MA VPH 5/2004	
Toluene	0.17	0.01	mg/L	10	09/11/15	LA	MA VPH 5/2004	

Project ID: 508 SOMERVILLE AVE
Client ID: IES-101

Phoenix I.D.: BJ86218

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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Phyllis Shiller, Laboratory Director
September 15, 2015
Reviewed and Released by: Ethan Lee, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 15, 2015

FOR: Attn: Mr Chris Buchanan
IES, Inc.
50 Salem Street, Building A-Suite 108
Lynnfield, MA 01940

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JB	09/02/15	12:57
Location Code:	IESINC	Received by:	LK	09/03/15	15:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ86217
Phoenix ID: BJ86219

Project ID: 508 SOMERVILLE AVE
Client ID: IES-103

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Calcium (Dissolved)	43.1	0.01	mg/L	1	09/04/15	LK	SW6010C	B
Iron (Dissolved)	0.034	0.011	mg/L	1	09/05/15	LK	SW6010C	
Manganese (Dissolved)	0.467	0.001	mg/L	1	09/04/15	LK	SW6010C	
Conductivity	723	5	umhos/cm	1	09/03/15	RR/EG	SM2510B-97	
Dissolved Metals Preparation	Completed				09/03/15	AG		
MA Petroleum Hydrocarbon (VPH)	Completed				09/10/15	LA	MADEP VPH04	
MA VPH Aliphatic/Aromatic Ranges								
C5-C8 Aliphatic Hydrocarbons *1,2	ND	0.1	mg/L	1	09/10/15	LA	MA VPH 5/2004	
C9-C10 Aromatic Hydrocarbons *1	ND	0.033	mg/L	1	09/10/15	LA	MA VPH 5/2004	
C9-C12 Aliphatic Hydrocarbons *1,3	ND	0.033	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Unadjusted C5-C8 Aliphatics (*1)	ND	0.1	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	ND	0.1	mg/L	1	09/10/15	LA	MA VPH 5/2004	
QA/QC Surrogates								
% 2,5-Dibromotoluene (FID)	85		%	1	09/10/15	LA	70 - 130 %	
% 2,5-Dibromotoluene (PID)	86		%	1	09/10/15	LA	70 - 130 %	
VPH Target Analytes								
Benzene	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Ethyl Benzene	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
m,p-Xylenes	ND	0.002	mg/L	1	09/10/15	LA	MA VPH 5/2004	
MTBE	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Naphthalene	ND	0.005	mg/L	1	09/10/15	LA	MA VPH 5/2004	
o-Xylene	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Toluene	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	

Project ID: 508 SOMERVILLE AVE
Client ID: IES-103

Phoenix I.D.: BJ86219

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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Phyllis Shiller, Laboratory Director
September 15, 2015
Reviewed and Released by: Ethan Lee, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 15, 2015

FOR: Attn: Mr Chris Buchanan
IES, Inc.
50 Salem Street, Building A-Suite 108
Lynnfield, MA 01940

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JB	09/02/15	11:25
Location Code:	IESINC	Received by:	LK	09/03/15	15:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ86217
Phoenix ID: BJ86220

Project ID: 508 SOMERVILLE AVE
Client ID: IES-104

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Calcium (Dissolved)	76.0	0.01	mg/L	1	09/04/15	LK	SW6010C	B
Iron (Dissolved)	3.31	0.011	mg/L	1	09/04/15	LK	SW6010C	
Manganese (Dissolved)	1.18	0.001	mg/L	1	09/04/15	LK	SW6010C	
Conductivity	2370	5	umhos/cm	1	09/03/15	RR/EG	SM2510B-97	
Dissolved Metals Preparation	Completed				09/03/15	AG		
MA Petroleum Hydrocarbon (VPH)	Completed				09/10/15	LA	MADEP VPH04	
MA VPH Aliphatic/Aromatic Ranges								
C5-C8 Aliphatic Hydrocarbons *1,2	ND	0.1	mg/L	1	09/10/15	LA	MA VPH 5/2004	
C9-C10 Aromatic Hydrocarbons *1	ND	0.033	mg/L	1	09/10/15	LA	MA VPH 5/2004	
C9-C12 Allphatic Hydrocarbons *1,3	ND	0.033	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Unadjusted C5-C8 Allphatics (*1)	ND	0.1	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Unadjusted C9-C12 Allphatics (*1)	ND	0.1	mg/L	1	09/10/15	LA	MA VPH 5/2004	
QA/QC Surrogates								
% 2,5-Dibromotoluene (FID)	95		%	1	09/10/15	LA	70 - 130 %	
% 2,5-Dibromotoluene (PID)	95		%	1	09/10/15	LA	70 - 130 %	
VPH Target Analytes								
Benzene	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Ethyl Benzene	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
m,p-Xylenes	ND	0.002	mg/L	1	09/10/15	LA	MA VPH 5/2004	
MTBE	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Naphthalene	ND	0.005	mg/L	1	09/10/15	LA	MA VPH 5/2004	
o-Xylene	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	
Toluene	ND	0.001	mg/L	1	09/10/15	LA	MA VPH 5/2004	

Project ID: 508 SOMERVILLE AVE
Client ID: IES-104

Phoenix I.D.: BJ86220

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B = Present in blank, no bias suspected.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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Phyllis Shiller, Laboratory Director
September 15, 2015
Reviewed and Released by: Ethan Lee, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 15, 2015

FOR: Attn: Mr Chris Buchanan
IES, Inc.
50 Salem Street, Building A-Suite 108
Lynnfield, MA 01940

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JB	09/02/15	12:42
Location Code:	IESINC	Received by:	LK	09/03/15	15:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBJ86217
Phoenix ID: BJ86221

Project ID: 508 SOMERVILLE AVE
Client ID: EQUIPMENT BLANK

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Calcium (Dissolved)	0.04	0.01	mg/L	1	09/05/15	LK	SW6010C	B*
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/04/15	LK	SW6010C	
Manganese (Dissolved)	< 0.001	0.001	mg/L	1	09/04/15	LK	SW6010C	
Conductivity	< 5	5	umhos/cm	1	09/03/15	RR/EG	SM2510B-97	
Dissolved Metals Preparation	Completed				09/03/15	AG		
MA Petroleum Hydrocarbon (VPH)	Completed				09/11/15	LA	MADEP VPH04	
MA VPH Aliphatic/Aromatic Ranges								
C5-C8 Aliphatic Hydrocarbons *1,2	ND	0.1	mg/L	1	09/11/15	LA	MA VPH 5/2004	
C9-C10 Aromatic Hydrocarbons *1	ND	0.033	mg/L	1	09/11/15	LA	MA VPH 5/2004	
C9-C12 Aliphatic Hydrocarbons *1,3	ND	0.033	mg/L	1	09/11/15	LA	MA VPH 5/2004	
Unadjusted C5-C8 Aliphatics (*1)	ND	0.1	mg/L	1	09/11/15	LA	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	ND	0.1	mg/L	1	09/11/15	LA	MA VPH 5/2004	
QA/QC Surrogates								
% 2,5-Dibromotoluene (FID)	87		%	1	09/11/15	LA	70 - 130 %	
% 2,5-Dibromotoluene (PID)	86		%	1	09/11/15	LA	70 - 130 %	
VPH Target Analytes								
Benzene	ND	0.001	mg/L	1	09/11/15	LA	MA VPH 5/2004	
Ethyl Benzene	ND	0.001	mg/L	1	09/11/15	LA	MA VPH 5/2004	
m,p-Xylenes	ND	0.002	mg/L	1	09/11/15	LA	MA VPH 5/2004	
MTBE	ND	0.001	mg/L	1	09/11/15	LA	MA VPH 5/2004	
Naphthalene	ND	0.005	mg/L	1	09/11/15	LA	MA VPH 5/2004	
o-Xylene	ND	0.001	mg/L	1	09/11/15	LA	MA VPH 5/2004	
Toluene	ND	0.001	mg/L	1	09/11/15	LA	MA VPH 5/2004	

Project ID: 508 SOMERVILLE AVE
Client ID: EQUIPMENT BLANK

Phoenix I.D.: BJ86221

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.
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Phyllis Shiller, Laboratory Director
September 15, 2015
Reviewed and Released by: Ethan Lee, Project Manager

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Environmental Laboratories, Inc.
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QA/QC Report

September 15, 2015

QA/QC Data

SDG I.D.: GBJ86217

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 319348 (mg/L), QC Sample No: BJ86218 (BJ86218, BJ86219, BJ86220, BJ86221)													
ICP Metals - Dissolved													
Calcium	0.01	0.01	68.9	69.2	0.40	95.3	97.3	2.1	NC	NC	NC	75 - 125	20
Iron	BRL	0.011	5.57	5.76	3.40	94.8	98.1	3.4	NC	NC	NC	75 - 125	20
Manganese	BRL	0.001	1.16	1.20	3.40	94.5	97.3	2.9	100	103	3.0	75 - 125	20

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Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 15, 2015

QA/QC Data

SDG I.D.: GBJ86217

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 319381 (umhos/cm), QC Sample No: BJ85830 (BJ86218, BJ86219, BJ86220, BJ86221)													
Conductivity	BRL	5.0		171		99.5						85 - 115	20

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Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 15, 2015

QA/QC Data

SDG I.D.: GBJ86217

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 320093 (ug/L), QC Sample No: BJ86219 (BJ86217 (1X, 10X) , BJ86218 (1X, 10X) , BJ86219, BJ86220, BJ86221)											
Volatile Petroleum Hydrocarbons - Ground Water											
Benzene	ND	1.0	101	95	6.1	102	97	5.0	70 - 130	20	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	109	101	7.6	110	103	6.6	70 - 130	20	
C9-C10 Aromatic Hydrocarbons *1	ND	33	110	120	8.7	124	122	1.6	70 - 130	20	
C9-C12 Aliphatic Hydrocarbons *1,	ND	33	80	104	26.1	107	105	1.9	70 - 130	20	r
Ethyl Benzene	ND	1.0	101	95	6.1	101	97	4.0	70 - 130	20	
m,p-Xylenes	ND	2.0	103	98	5.0	104	100	3.9	70 - 130	20	
MTBE	ND	1.0	70	70	0.0	69	67	2.9	70 - 130	20	m
Naphthalene	ND	5.0	93	101	8.2	100	102	2.0	70 - 130	20	
o-Xylene	ND	1.0	99	95	4.1	101	97	4.0	70 - 130	20	
Toluene	ND	1.0	102	96	6.1	102	98	4.0	70 - 130	20	
Unadjusted C5-C8 Aliphatics (*1)	ND	100	100	95	5.1	101	96	5.1	70 - 130	20	
Unadjusted C9-C12 Aliphatics (*1)	ND	100	87	108	21.5	111	110	0.9	70 - 130	20	r
% 2,5-Dibromotoluene (FID)	86		93	93	0.0	97	98	1.0	70 - 130	20	
% 2,5-Dibromotoluene (PID)	85		93	93	0.0	96	97	1.0	70 - 130	20	

Comment:

A blank MS/MSD was analyzed with this batch.

m = This parameter is outside laboratory ms/msd specified recovery limits.
r = This parameter is outside laboratory rpd specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
September 15, 2015

Sample Criteria Exceedences Report

GBJ86217 - IESINC

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
BJ86218	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / GROUNDWATER STANDARDS / GW-2	3400	1000	3000	3000	ug/L

Phoenix Laboratories does not assume responsibility for the data contained in this report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: 508 SOMERVILLE AVE **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

BJ86217, BJ86218, BJ86219, BJ86220, BJ86221

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes ☐ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: ICP, VPH Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: Ethan Lee

Date: Tuesday, September 15, 2015

Printed Name: Ethan Lee

Position: Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

September 15, 2015

SDG I.D.: GBJ86217

Metals Analysis:
The client requested a shorter list of elements than the 6010 MCP list. The following analytes from the 6010 MCP Metals list were not reported: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc.

ICP Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 319348 (Samples: BJ86218, BJ86219, BJ86220, BJ86221): ----

A trace amount of an analyte was found in blank. Due to the concentration in the blank relative to the samples, no bias is suspected. (Dissolved- Calcium(BJ86218, BJ86219, BJ86220))

Analyte was found in blank. A high bias is suspected. (Dissolved- Calcium(BJ86221))

Instrument: Arcos 09/04/15-1 (BJ86219, BJ86221)

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 9/4/2015

Instrument: Arcos 09/05/15-1 (BJ86219, BJ86221)

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 9/5/2015

Instrument: Blue 09/03/15-1 (BJ86218, BJ86219, BJ86220, BJ86221)

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

September 15, 2015

SDG I.D.: GBJ86217

Printed Name Laura Kinnin
Position: Chemist
Date: 9/3/2015

Instrument: Blue 09/04/15-1 (BJ86218, BJ86219, BJ86220, BJ86221)

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.

Printed Name Laura Kinnin
Position: Chemist
Date: 9/4/2015

QC (Batch Specific)

---------- Sample No: BJ86218, QA/QC Batch: 319348 ----------

All LCS recoveries were within 75 - 125 with the following exceptions: None.

All LCSD recoveries were within 75 - 125 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICPDW

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument: Arcos 09/05/15-1 (BJ86219, BJ86221)

The initial calibration met criteria.
The initial continuing calibration standard (CVS) met criteria except for the following elements: (none).
The continuing calibration standards met criteria except for the following reported elements: (none)
The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The CRDL detection level standard was analyzed and was within criteria except for the following elements: (none)
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria except for the following elements: (none)

Printed Name Laura Kinnin
Position: Chemist
Date: 9/5/2015

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

September 15, 2015

SDG I.D.: GBJ86217

Instrument: Blue 09/04/15-1 (BJ86218, BJ86219, BJ86220, BJ86221)

The initial calibration met criteria.
The initial continuing calibration standard (CVS) met criteria except for the following elements: (none).
The continuing calibration standards met criteria except for the following reported elements: (none)
The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The CRDL deetection level standard was analyzed and was within criteria except for the following elements: (none)
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria except for the following elements: (none)

Printed Name Laura Kinnin
Position: Chemist
Date: 9/4/2015

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 320093 (Samples: BJ86217, BJ86218, BJ86219, BJ86220, BJ86221): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (C9-C12 Aliphatic Hydrocarbons, Unadjusted C9-C12 Aliphatics)

Instrument: Pidfid 09/10/15-1 (BJ86217, BJ86218, BJ86219, BJ86220, BJ86221)

A seven level calibration was performed. All RSDs were within limits.
The continuing calibration standards were within control limits.

Printed Name Lauren Muirhead
Position: Chemist
Date: 9/10/2015

QC (Batch Specific)

---------- Sample No: BJ86219, QA/QC Batch: 320093 ----------

All LCS recoveries were within 70 - 130 with the following exceptions: None.

All LCSD recoveries were within 70 - 130 with the following exceptions: None.

All LCS/LCSD RPDs were less than 20% with the following exceptions: C9-C12 Aliphatic Hydrocarbons *1,3(26.1%), Unadjusted C9-C12 Aliphatics (*1)(21.5%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

22 Bottles Total

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]
Temp 3 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery:
[ ] Fax #:
[X] Email: cbuchanan@iesinc.com

Customer: IES, Inc.
Address: 50 Salem Street Bldg A Suite 108
Lynnfield, MA 01940

Project: 508 somerville Ave
Report to: Chris Buchanan
Invoice to: IES, Inc
Phone #: 617.632.8880
Fax #:

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: John H Ben Date: 9/2/15

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
OIL=Oil B=Bulk L=Liquid

Analysis Request: VPH w/ target analytes; Dissolved Mn, Fe, Ca; Conductance

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [X] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
86217	IES-4	GW	9/2/15	9:19				3						
86218	IES-101	GW	9/2/15	8:51				3		1	1			
86219	IES-103	GW	9/2/15	12:57				3		1	1			
86220	IES-104	GW	9/2/15	11:25				3		1	1			
86221	Equipment Blank	GW	9/2/15	12:42				2		1	1			

Relinquished by:	Accepted by:	Date:	Time:
Brad Coff	Claradero	9-3-15	12:32
		9/3/15	1526

Comments, Special Requirements or Regulations:
Metals field filtered and preserved with HNO_3

Turnaround:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[X] MCP Certification
[ ] GW-1
[X] GW-2
[ ] GW-3
[ ] S-1
[ ] S-2
[ ] S-3
[ ] MWRA eSMART
[ ] Other

State where samples were collected: MA

Data Format
[X] Excel
[x] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

ATTACHMENT "D"

eDEP Authorization Letter

IES, Inc Project # 2013-10-0836
RTN 3-32186
November 24 2015

IES Inc
ENVIRONMENTAL CONSULTANTS

IES Inc.
ENVIRONMENTAL CONSULTANTS

www.iesinc.com

May 9, 2014

Ms. Luz Londono
508 Somerville Ave, LLC
10 Tower Court, #3
Somerville, MA 02143

RE: MADEP Correspondence
508 Somerville Avenue
Somerville MA

Dear Ms. Londono:

The signing of this letter, as the owner of the above referenced property located at 508 Somerville Avenue, Somerville, MA, and as the "Potential Responsible Party" (PRP) of the release of heavy metals and petroleum at this location, authorizes IES to submit MassDEP submittals on your behalf via eDEP, including BWSC-103 Release Notification Form.

Should you have any questions regarding this matter, please do not hesitate to call our office.

Respectfully,

Christopher D Buchanan
Project Manger

Accepted By:

Luz Londono 5-16-14

Signature Date

Luz Londono

Printed Name

somerville
PUBLIC LIBRARY